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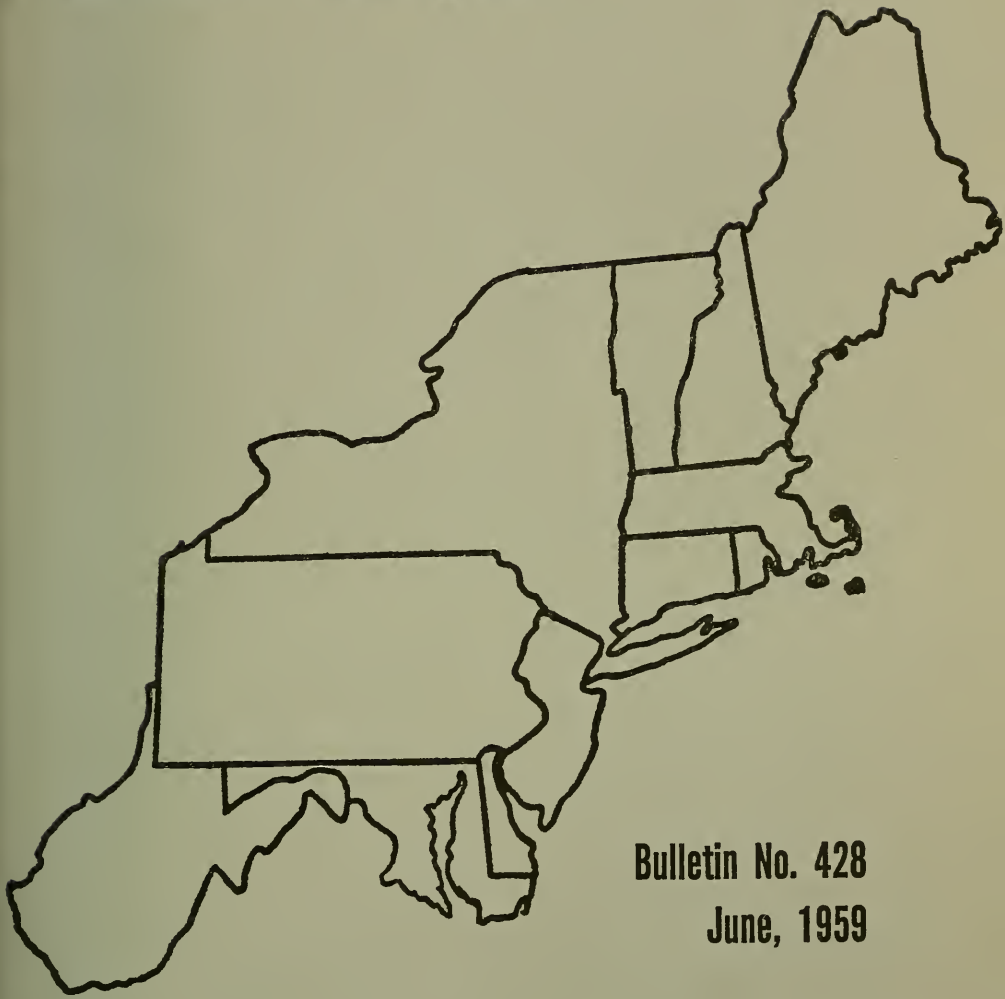
Characteristics of
LIVESTOCK SLAUGHTER PLANTS
in Northeastern United States



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WEST VIRGINIA UNIVERSITY AGRICULTURAL EXPERIMENT STATION

Characteristics of
LIVESTOCK SLAUGHTER PLANTS
in Northeastern United States

by
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Foreword

IN 1954, representatives from the agricultural experiment stations in the Northeast, together with officials from the United States Department of Agriculture, initiated a regional livestock marketing study. The project was entitled "Marketing Procedures and Outlets for Northeastern Livestock with Emphasis on Dairy Animals," and the primary objective was to find ways to improve the efficiency of livestock marketing.

The project was broken down into four separate study phases; producers, dealers, auctions, and slaughter plants. Each of these was extensively surveyed; and publications of the analysis of data from auctions and dealers were prepared and distributed.[1]

This report is an analysis of the data obtained from slaughter plants. The Cooperating agencies are:

STATE AGRICULTURAL EXPERIMENT STATIONS

Connecticut[2]
Delaware[2]
Maine
Maryland
Massachusetts
New Hampshire[2]
New Jersey
New York
Pennsylvania
Rhode Island[2]
Vermont
West Virginia

UNITED STATES DEPARTMENT OF AGRICULTURE

Agricultural Marketing Service
Farmer Cooperative Service
State Experiment Stations Division
Regional Coordinator

[1]Randell, C. G., *Livestock Auctions in the Northeastern States.* Farmer Cooperative Service Bulletin No. 8, Northeast Regional Publication No. 26. Also Merchant, C. H., *Livestock Dealers' Operations.* Maine Bulletin No. 555, Northeast Regional Publication No. 36.

[2]These states did not actively participate in this study of slaughter plants.

THE AUTHOR

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Summary

THE results of a 1955 sample survey of livestock slaughter plants in Northeastern United States indicate that 46 per cent of the cattle, 18 per cent of the calves, 84 per cent of the hogs and 92 per cent of the sheep and lambs slaughtered in these plants were obtained outside of the region. Of the cattle some 70 per cent of the beef steers and heifers, 38 per cent of the bulls and 7 per cent of the dairy cattle were procured in other regions. Plant operators stated they procured livestock in other regions because there was a "wider selection" of "quality animals" in "sufficient quantities" and at "favorable prices."

Procurements within the Northeastern region consisted largely of cull dairy animals and calves. These "by-products" of the dairy industry, together with other meat animals marketed in the region, were obtained primarily at terminal and auction markets. These two sources accounted for well over two thirds of all meat animals purchased in the Northeastern region. Auction markets were most important as a source of dairy cattle and calves, while terminal markets were most important as a source of lambs, hogs, beef steers and heifers.

During 1955 these plants sold most of their meat and meat products to retail outlets. The second ranking outlet used was jobbers and wholesalers. Together these two sales outlets accounted for 75 per cent of the beef, 79 per cent of the veal, 61 per cent of the pork and 95 per cent of lamb. Sales to meat processors ranked third, accounting for 12 per cent of the beef, 14 per cent of the veal and 9 per cent of the pork.

A large majority of all meat except pork was sold as whole, half, or quarter carcasses. During 1955, 60 per cent of the beef, 87 per cent of the veal, 8 per cent of the pork and 98 per cent of the lamb was sold in this form. Approximately 70 per cent of the pork was sold as wholesale cuts, either fresh or cured. Boned meat was the second ranking form in which meat was sold, accounting for about 14 per cent of the beef and 6 per cent of the veal. Most of the boned meat came from cull dairy cattle and bulls.

Federal grading of meat was performed almost exclusively in federally inspected plants. None of the local slaughterers sold federally graded meat, while only 5 per cent of the meat sold by wholesale slaughterers was federally graded. About 34 per cent of the beef, 10 per cent of the pork, 9 per cent of the lamb and 7 per cent of the veal originating in Northeastern slaughter plants was federally graded. Practically all of the graded beef came from beef steers and heifers.

The size of plant, as measured in number of head slaughtered, varied greatly among plants in each classification and among plants in different classifications. For instance, in federally inspected plants slaughtering cattle, calves, sheep and lambs the range in numbers slaughtered per plant was 2,500 to 78,000 head of cattle, 500 to 74,000 head of calves, and 300 to 245,000 head of sheep and lambs. The plant operators indicated that insufficient refrigeration space, lack of skilled labor and other internal plant problems were the most important factors limiting their operations.

A large majority of these plants were located near or within large population centers. Practically all of the plants operated 52 weeks during 1955 and most of them were inspected by either governmental or religious authorities.

Federally inspected plants were the most important class of plants, accounting for 74 per cent of the beef, 42 per cent of the veal, 82 per cent of the pork and 88 per cent of the lamb sold by all plants. Wholesale plants ranked second and were responsible for 20 per cent of the beef, 42 per cent of the veal, 16 per cent of the pork, and 9 per cent of the lamb. Local plants ranked third and accounted for 6 per cent of the beef, 17 per cent of the veal, 2 per cent of the pork and 3 per cent of the lamb.

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Characteristics of Livestock Slaughter Plants in Northeastern United States

KENNETH D. McINTOSH

Introduction

DURING the past twenty years, considerable data have been assembled concerning the marketing agencies through which livestock slaughterers obtain their slaughter animals. There has also been a considerable accumulation of knowledge pertaining to the movement of meat and meat products from slaughter plants to retail stores, restaurants, hotels, jobbers, wholesalers, and others.

Some of the publications resulting from marketing studies were rather broad analyses for the entire United States, while others were quite specific for some state or group of states. Although the Northeastern region was included in several of the more general analyses, very little specific data have been published concerning the agencies used by slaughterers in obtaining slaughter animals and the markets to which they sell their meat and meat products in this region.

Over a period of time, the relative importance of agencies patronized by slaughterers changes quite significantly. Witness the growth of auctions, "direct" marketing, large-scale feed lot operations, frozen meat concerns, and freezer-locker trade in the past twenty years.

The changing nature of the marketing channels requires that from time to time a reassessment be made of the marketing agencies. This is done to keep abreast of changes in market patterns, to acquaint new workers and others with the field of livestock marketing, to obtain preparatory material for more advanced research, and to aid in making livestock marketing decisions.

In 1954, farmers in the Northeastern region sold 5.1 million head of livestock for $277,247,000, 9 per cent of their cash income.[3] While the majority of these animals were cull dairy animals and calves representing secondary sources of income to many farmers, the total value added to farm income through the sale of livestock was considered important enough to warrant a study of the marketing procedures and outlets for Northeastern livestock. To facilitate the study, it was broken down into four parts: a producer survey, a dealer survey, an auction survey, and a slaughter plant survey.

[3]Randell, C. G., *Livestock Auctions in the Northeastern States, op. cit.*, p. 1.

This is the report on slaughter plants and is largely a descriptive-type analysis of the federally inspected, wholesale, and local slaughtering establishments.[4] During 1955, surveys were made of all three classes of plants to determine the sources of slaughter livestock and the sales outlets used to distribute meat and meat products. The report which follows is based on the sample results[5] and the primary objectives of the report are to indicate:

1. The sources of slaughter animals and the relative importance of each.
2. The distribution channels used by Northeastern slaughterers to dispose of their meat and meat products.
3. The proportion of meat sold as whole, half, or quarter carcasses, wholesale cuts, boneless beef, consumer ready (retail cuts), processed meats, lard, tallow and other breakdowns.

Although other information was gathered and is presented, these three objectives are considered to be of major importance.

General Characteristics of Livestock and Meat Production in The Northeastern Region

Dairy animals are the principal type of livestock produced in the Northeast. West Virginia is the only state in the Northeast which produces cattle and calves primarily for meat, although Maryland, Pennsylvania, and New York also produce a considerable number of meat animals.[6] Although the chief function of dairy animals is milk production, the sale of calves and cull dairy animals is an important secondary source of income to dairy farmers and can be the difference between profit and loss.

The livestock inventory in January, 1958 indicates that in seven of the 12 Northeastern states animals kept for milk account for over 90 per cent of the cattle and calves.[7] In four other states well over 70 per cent of the cattle and calves are kept for milk. For the entire region

[4]These plant classifications are from *Number of Livestock Slaughter Establishments*, March 1, 1955, a United States Department of Agriculture publication dated June 15, 1955. According to USDA classifications, federally inspected slaughter plants are those which slaughter livestock under inspection conducted by the Meat Inspection Branch of the USDA. Wholesale and local slaughtering plants not under federal inspection are classified on the basis of volume handled per year. Wholesale plants are those whose annual slaughter is more than 2,000,000 pounds live weight, while local plants are those whose annual slaughter is less than 2,000,000 pounds, but more than 300,000 pounds live weight.

[5]For sampling procedure, see Appendix A.

[6]*Livestock and Poultry Inventory, Jan. 1. Number, Value, and Classes.* USDA, AMS, Crop Reporting Board, Feb. 14, 1958.

[7]*Ibid.*

swine, sheep and lamb production is relatively insignificant, but in certain areas, especially in West Virginia, Pennsylvania, Maryland and New York, these animals are of considerable importance as sources of income.

Livestock production in the Northeast is not sufficient to meet the demand for meat in the area. This is especially true for the higher quality cuts, such as beef steaks and roasts, pork loins and hams, leg of lamb and lamb chops. With pork and lamb production at relatively insignificant levels and dairy animals not possessing those necessary attributes for quality meat production, considerable quantities of the meat consumed in the region must be imported. It has been stated that roughly two thirds of the meat is produced west of the Mississippi River and two thirds consumed east of the Mississippi River.

Although dairy animals do not provide the quality meat that consumers demand in primal beef cuts, they do provide large amounts of beef which is used for hamburgers, stewing meats, sauages, loaves, and other processed meats. At the same time, these animals furnish an annual crop of calves that are used in satisfying the demand for veal. At times the importance of dairy animals as a source of beef and veal is overlooked. It has been estimated that roughly 35 per cent of our beef and veal supply comes from dairy cattle.[9] A dependency as large as this certainly cannot be ignored.

General Characteristics of Slaughtering Plants in the The Northeastern Region

There were about 700 slaughtering establishments operating in the Northeast in 1955.[10] These plants are generally located near large population centers and range in size from small one-man operations to giant corporations employing several thousand employees. Figure 1 shows the locations of the slaughter plants in the sample. Mainly for definitive purposes, slaughter plants are classified as federally inspected, wholesale, and local slaughter establishments. For definitions of these plant classifications, see footnote 4.

In general, federally inspected plants slaughter, process, and distribute more livestock and meat than do wholesale or local slaughtering establishments. These plants are more specialized than wholesale or local plants with over 70 per cent of the plants killing either one or two kinds of meat animals (Table 1). Federally inspected plants also have a more extensive supply system than either wholesale or local plants, reaching out to the Midwest and North Central regions for a large share of their

[8]Fowler, Stewart H., *The Marketing of Livestock and Meat.* Interstate Printers and Publishers, Inc., Danville, Ill., 1957. p. 29.

[9]*Ibid.*, p. 41.

[10]*Number of Livestock Slaughter Establishments, op. cit.*

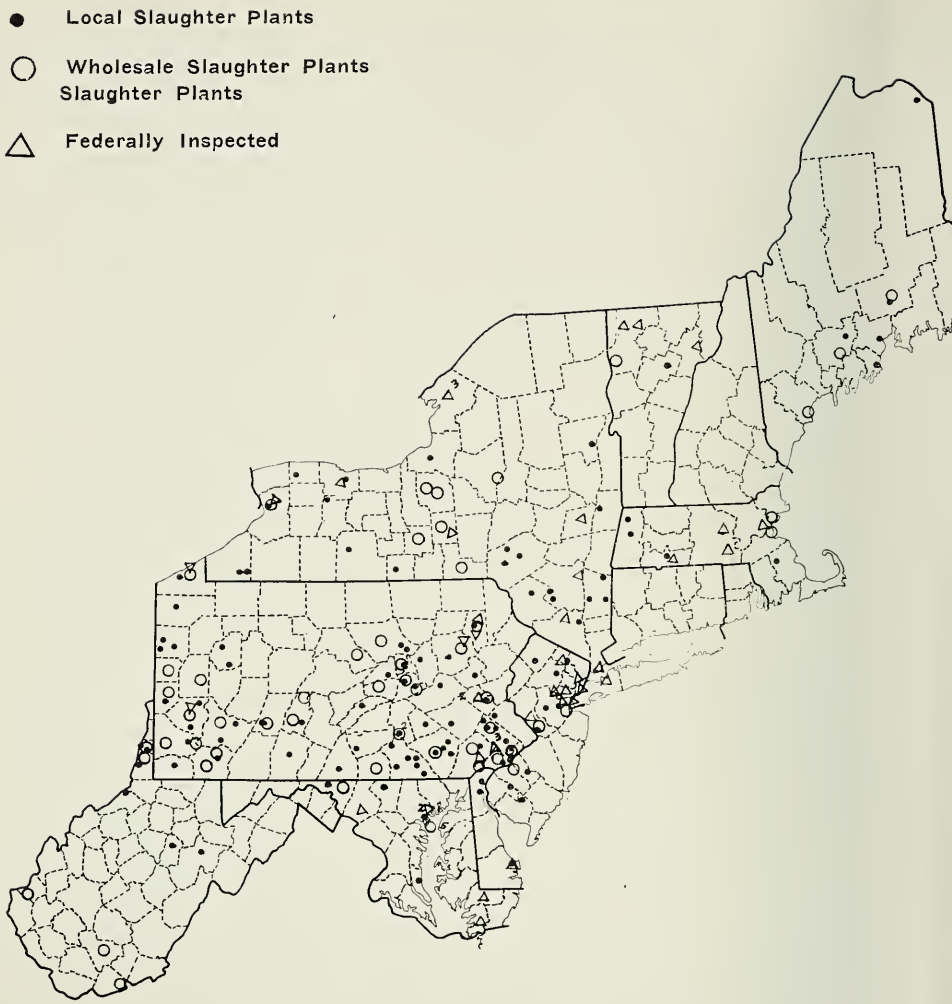

FIGURE 1. Location of Northeastern Livestock Slaughter Plant Sample, 1955.

slaughter livestock. Some of these plants are independently-owned enterprises while others are subsidiaries of national meat packers. These federally inspected plants also have more extensive distribution systems than either wholesale or local plants.

Northeastern wholesale plants are not federally inspected and are defined on the basis of annual liveweight slaughter. While some of these

plants are as large as some federally inspected plants, they are usually independently owned and operated with less extensive supply lines and distribution systems than federally inspected plants. These plants tend to diversify in kinds of meat animals slaughtered with about 60 per cent of the plants killing three of four kinds of meat animals (Table 1). Because federal regulations prohibit the interstate shipment of meat and meat products not federally inspected, meat originating in these plants must be distributed within the states where the plants are located. However, wholesale slaughterers and local slaughterers purchase a small quantity of meat from federally inspected plants and this meat can be transported interstate. Although wholesale plants are for the most part smaller in volume than federally inspected plants, they also rely on interregional purchases for a considerable portion of their slaughter animals.

Generally speaking, Northeastern local slaughter plants are small operations buying and selling livestock and meat at nearby markets. The typical local plant is owned and operated by one family. Usually the owner or one of the co-owners buys the livestock, manages the slaughtering operations, and sells the meat and meat products. Quite a few of these plants buy only low quality animals which they "bone out," using the meat in preparing processed meats. Still others slaughter a small number of quality animals for a select trade. Local plants do a considerable amount of custom killing, especially in the fall and early winter months. With such relatively small operations, most of these plants arrange their business so they can supply several kinds of meat and meat products to local retail outlets and consumers. Thus, they either handle a "full line of wares," that is they kill and sell the meat from three or four kinds of meat animals (Table 1), or they slaughter only one or two kinds of meat animals and rely upon purchases from other packers to complete the line of meat they are called upon to furnish.

Table 1. Kinds of Meat Animals Slaughtered by Northeastern Slaughter Plant Sample, 1955

Kinds of Meat animals	Class and Number of Plants		
	Federally Inspected	Wholesale	Local
Cattle	11	3	2
Hogs	6	4	2
Calves	1	0	1
Cattle & Calves	11	10	15
Cattle & Hogs	2	6	6
Calves, Sheep & Lambs	1	4	3
Cattle, Calves & Hogs	2	12	31
Cattle, Calves, Sheep & Lambs	9	9	12
Cattle, Hogs, Sheep & Lambs	0	1	0
Cattle, Calves, Hogs, Sheep & Lambs	2	17	38

Table 2. Northeastern Slaughter Plant Sample, 1955

State	Class and Number of Plants		
	Federally Inspected	Wholesale	Local
Delaware	1	0	3
Maine	0	3	5
Maryland	4	6	5
Massachusetts	4	3	4
New Jersey	10	3	9
New York	12	11	21
Pennsylvania	11	34	56
Vermont	3	1	1
West Virginia	0	5	6
Regional Total	45	66	110

Selection and Location of Sample Slaughter Plants

There were 91 federally inspected plants, 180 wholesale plants, and 447 local slaughter plants in the Northeastern region during 1955.[11] One half of the federally inspected, one third of the wholesale, and one fourth of the local plants were randomly selected for use in this study.[12] Of the 221 plants surveyed for this study, almost one half were located in Pennsylvania where more wholesale and local slaughter plants are in operation than in any other state in the country (Table 2 and Figure 1).

Many of these plants are located within or relatively close to large urban areas. This is especially true for the larger volume plants, such as wholesale slaughterers and federally inspected plants. Small volume plants, as local slaughterers, often have a higher per-unit production cost, but they sell their products locally. The larger volume plants, on the other hand, may be in a position to operate at a lower per-unit cost. However, these plants have larger distribution systems than do local plants and lower production costs may be offset by the higher distribution costs.

Type of Inspection and Operating Period of Northeastern Slaughter Plants

Almost all plants in the Northeastern region receive some type of periodic inspection (Table 3). In most cases this inspection is confined to an inspection of equipment and buildings, largely for enforcing sanitary rules and regulations. However, in those plants which are federally inspected, the meat as well as the buildings and equipment

[11] *Number of Livestock Slaughtering Establishments, op. cit.*

[12] For sampling procedure, see Appendix A.

Table 3. Type of Inspection, Northeastern Slaughter Plant Sample, 1955

Plant Classification	Type of Inspection					
	Federal	State	City	Local	Kosher Kill	None
Federally Inspected	45	5	2	0	22	0
Wholesale	0	47	20	9	15	2
Local	0	78	19	16	9	7

is inspected. Quite often there is overlapping jurisdiction with a plant receiving inspection by two or more different inspecting agencies. Of the meat distributed by all sample plants during 1955, 74 per cent of the beef, 42 per cent of the veal, 82 per cent of the pork, and 88 per cent of the lamb came from federally inspected plants (Table 4).

Table 4. Amount of Meat Distributed by Northeastern Slaughter Plant Sample, 1955

Plant Classification	Total Pounds of Meat (Millions)				Proportion of Meat Sold by Each Plant Class (Per cent)			
	Beef	Veal	Pork	Lamb	Beef	Veal	Pork	Lamb
All Plants	562	78	497	49	100	100	100	100
Fed. Insp. Plants	415	32	409	43	74	42	82	88
Wholesale Plants	114	32	77	5	20	42	16	9
Local Plants	33	13	11	1	6	16	2	3

Practically all of the plants operate 52 weeks a year (Table 5). Several factors prevent plants from closing for a week or two each year. The most important are the continuous demand for meat, the relatively high fixed cost associated with operating a packing plant, and the maintenance of clientele. Labor problems, lack of chilling, holding, and storage space are also factors which tend to keep the plants in operation all year long.

Table 5. Number of Weeks Operated by Northeastern Slaughter Plant Sample, 1955

Plant Classification	Number of Plants Operating a Specified Number of Weeks in 1955			
	52	51	50	28
Federally Inspected Plants	44	—	1	—
Wholesale Plants	65	—	1	—
Local Plants	105	2	2	1

Size of Plant

The size of slaughter plants can be measured by the number of animals killed in a certain period of time. Tables 6, 7, and 8 indicate

such measurements for Northeastern plants during 1955. However, the measurements are further refined by separating the plants according to the kinds of meat animals slaughtered.[13]

One of the most striking characteristics of all three classes of plants is the wide variations in the numbers of animals processed among plants in the same classification. Of course there is an extreme difference in the number of animals slaughtered in local plants when compared to either wholesale or federally inspected plants. However, the difference between plant classifications results largely from the definitions of the three plant classes. These definitions effectively segregate local, wholesale, and federally inspected plants into small, medium, and large plants respectively. The wide differences in the number of animals slaughtered among plants in one classification, as well as that between classifications, suggests that some plants may be using resources more efficiently than others. It may be possible in future research to isolate the most efficient resource-using plants and indicate advantages or disadvantages, if any, of large-and small-scale operations. These differences in numbers of animals slaughtered among plants also suggest that it may be possible to develop standards for such things as plant layout, type of equipment, labor requirements, etc., which will lead to a better allocation of resources.

Considering the advantages which are often associated with specialization, it would be expected that plants slaughtering one or two kinds of meat animals would be processing more animals per plant than those killing three or four kinds. However, this relationship is not very marked among plants in any classification. For example, federally inspected plants slaughtering cattle alone averaged just over 24,000 head. At the same time, those plants killing cattle, calves and lambs averaged 27,000 cattle, 13,000 calves and 38,000 lambs (Table 6). This same situation exists among wholesale and local plants (Tables 7 and 8).

The data in Tables 6, 7, and 8 also indicate a wide variation among plants in one classification killing the same kind or kinds of meat animals. The most striking variations occur among federally inspected plants where, for example, the range in numbers slaughtered in those plants killing cattle, calves and lambs is 2,500 to 78,000 cattle, 500 to 74,000 calves, and 300 to 245,000 lambs. These wide ranges are also found among wholesale or local plants killing the same kind or kinds of meat animals. However, the numbers slaughtered are not as large.

[13]Quite often animal-unit values are assigned to different kinds of meat animals. Such units have the advantage of allowing different species of animals to be summed together and direct comparisons made between the plants. However, where plants are rather specialized, animal units tend to confuse rather than enlighten. There is also considerable difficulty in assigning "the correct" weights to the different species.

Table 6. Livestock Slaughter by Northeastern Federally Inspected Slaughter Plants, 1955

Kind of Meat Animals Slaughtered	No. of Plants	Total Number Slaughtered (Head)				Average Number Slaughtered Per Plant (Head)				Range in Numbers Slaughtered (Head)			
		Cattle	Hogs	Calves	Sheep & Lambs	Cattle	Hogs	Calves	Sheep & Lambs	Cattle	Hogs	Calves	Sheep & Lambs
Cattle	11	265,446				24,131				3,684—68,332			
Hogs	6		1,959,609				326,601				146,322—625,000		
Calves	1			10,000				10,000				10,000	
Cattle and Calves	11	100,870		254,869		9,170		23,170		325—22,000		1,060—61,467	
Cattle and Hogs	2	16,400	110,600			8,200	55,300			1,400—15,000	15,600—95,000		
Calves, Sheep & Lambs	1			15,000	620,000			15,000	620,000			15,000	620,000
Cattle, Calves Sheep & Lambs	9	246,800		117,500	346,800	27,422		13,055	38,533	2,500—78,000		500—74,000	300—245,000
Cattle, Hogs and Calves	2	19,678	154,483	3,421		9,839	77,242	1,711		9,678—10,000	4,483—150,000	921—2,500	
Cattle, Calves Hogs and Sheep and Lambs	2	58,500	273,000	13,500	41,040	29,250	136,500	6,750	20,520	12,000—46,500	26,000—247,000	2,500—11,000	1,040—40,000

Table 7. Livestock Slaughter in Northeastern Wholesale Slaughter Plants, 1955

Kind of Meat Animals Slaughtered	No. of Plants	Total Number Slaughtered (Head)				Average Number Slaughtered Per Plant (Head)				Range in Numbers Slaughtered (Head)			
		Cattle	Hogs	Calves	Sheep & Lambs	Cattle	Hogs	Calves	Sheep & Lambs	Cattle	Hogs	Calves	Sheep & Lambs
Cattle	3	16,100				5,370				1,800—10,000			
Hogs	4		129,500				32,375				12,500—65,000		
Cattle and Calves	10	43,567		36,360		4,357		3,636		660—11,950		624—8,000	
Cattle and Hogs	6	12,355	59,342			2,059	9,890			301—7,890	1,761—22,653		
Calves, Sheep & Lambs	4			114,586	47,169			28,647	11,792			7,471—85,000	1,000—35,000
Cattle, Hogs and Calves	12	24,929	138,518	22,094		2,077	11,543	1,841		73—4,039	1,816—36,641	438—8,709	
Cattle, Calves Sheep & Lambs	9	45,831		208,017	31,686	5,092		25,113	3,521	2,600—10,000		2,000—10,000	477—7,000
Cattle, Hogs, Sheep & Lambs	1	1,850	3,600		360	1,850	3,600		360	1,850	3,600		360
Cattle, Hogs, Calves and Sheep & Lambs	17	61,301	134,262	85,001	25,518	3,606	7,898	5,000	1,501	1,400—9,800	800—25,620	350—20,922	200—10,400

Table 8. Livestock Slaughter in Northeastern Local Slaughter Plants, 1955

Kind of Meat Animals Slaughtered	No. of Plants	Total Number Slaughtered (Head)				Average Number Slaughtered Per Plant (Head)				Range in Numbers Slaughtered (Head)			
		Cattle	Hogs	Calves	Sheep & Lambs	Cattle	Hogs	Calves	Sheep & Lambs	Cattle	Hogs	Calves	Sheep & Lambs
Cattle	2	772				386				156—616			
Hogs	2		2,440				1,220				500—1,940		
Calves	1			5,750				5,750				5,750	
Cattle and Calves	15	7,408		45,428		494		3,029		100—1,291		52—19,612	
Cattle and Hogs	6	3,096	2,400			516	400			250—900	100—1,000		
Calves, Sheep & Lambs	3			18,411	6,779			6,137	2,260			780—15,000	780—5,000
Cattle, Hogs and Calves	31	19,685	28,117	12,816		635	907	413		25—1,560	50—5,000	35—2,600	
Cattle, Calves, Sheep & Lambs	12	6,919		16,818	3,101	577		1,402	258	100—1,200		200—7,800	50—520
Cattle, Hogs, Calves and Sheep & Lambs	38	21,269	33,871	54,285	19,359	560	891	1,429	509	156—2,600	90—3,960	24—13,000	20—5,000

For example, in wholesale plants killing cattle, calves and lambs the ranges are 2,600 to 10,000 cattle, 2,000 to 104,000 calves and 477 to 7,000 lambs. The ranges for local plants killing the same kinds of animals are 100 to 1,200 cattle, 200 to 7,800 calves and 50 to 520 lambs.

From the data presented in Tables 6, 7, and 8, it becomes increasingly clear that the variations among plants in one classification as well as that between plant classifications is so great that a statement of size based on animal numbers alone is not too meaningful. A more meaningful measure would be pounds of either livestock or meat handled.

Limiting Factors of Slaughterers

When the plant operators were asked what factors limited their operations, the most frequently given answers were, in their words, "not enough chilling space," "lack of skilled labor," "amount of business," "full capacity," "consumer, market and trade demand," and other problems connected with internal plant facilities and operations (Table 9). The factors listed in Table 9 are those enumerated by plant operators, and it is likely that several of them could be grouped together under one

Table 9. Limiting Factors of Northeastern Slaughter Plant Sample, 1955

Limiting Factor	Plant Classification (Responses)		
	Federally Inspected	Wholesale	Local
Full capacity	19	2	—
Not enough chilling space	17	20	38
Skilled labor	6	16	20
Killing space	—	4	6
Amount of business	13	23	—
Price changes	3	—	—
Storage room	—	5	—
No profit	—	2	1
Lack of customers	—	3	—
Operating time	—	1	—
Lack of livestock	—	1	2
Too much competition	—	1	—
Consumer demand	—	—	12
Trade demand	—	—	6
Market demand	—	—	16
Rail space	—	—	3
Holding space	—	—	7
Plant area	—	—	7
Supply and demand	—	—	10
Manufacturing equipment	—	—	1
Business conditions	—	—	6
No market for meat	—	—	1
Do not wish to expand	—	—	3
No sales force	—	—	2
Cannot compete successfully	—	—	1
None	—	—	3

category. For instance, slaughterers may have used the terms consumer, trade, and market demand interchangeably when they were referring to market demand. However, it may be that each of these categories do have a specific and separate meaning to people connected with the livestock industry (as they do indeed among economists!) and for that reason the categories have not been combined.

Over-all, it appears that many Northeastern slaughtering operations may be limited because of insufficient refrigeration space or because output is pressing against plant capacity. That is, output may be pressing against present plant capacity given the existing type of equipment, labor force, plant facilities, and layout.

Several of the local slaughterers stated that the lack of demand limited their operations, while none of the federally inspected or wholesale slaughterers listed demand as a limiting factor. It may be that local slaughterers are unable to distinguish between inadequate demand and their inability to supply meat and meat products to larger retail and wholesale outlets or their difficulty in selling meat at prices which they think they should get.

The smaller volume slaughter plants may also list demand as a factor when the real predominant limiting factor is the kind of animals they slaughter. The broken and odd lots they purchase and slaughter may not be so easy to sell and they in turn label this insufficient demand.

A number of small local and wholesale plants are confronted with another aspect of supply and demand which seemingly does not affect larger meat packing concerns. That is the problem of being able to supply chain stores and other large retail outlets with a continuous volume of meat large enough to satisfy the demands of consumers patronizing these outlets. Because small volume plants are unable to provide a sufficient supply of meat to large retail organizations, they are by-passed in favor of large volume packers who can insure a continuous volume of meat and meat products. These smaller plants may contemplate expanding with the expectations of doing business with these larger retail outlets, but to do so is quite expensive and constitutes a rather high risk venture. On the other hand, if expansion does not take place, many local and wholesale plants must be content with supplying outlets demanding relatively small quantities of meat and meat products.

Our modern transportation industry was given a vote of confidence when only three plants listed the supply of livestock as a limiting factor. From this we might assume the channels of supply are working satisfactorily to insure the slaughterers an adequate and continuous supply of livestock and that future research and planning in the Northeastern region might well be oriented in the area of internal plant problems.

Livestock Procured from Other Regions

The Northeastern region has long been a deficit meat producing region with a large majority of all meat animals, except dairy cattle and calves, being imported from other regions. Of the animals slaughtered in sample Northeastern plants during 1955 approximately 70 per cent of the beef steers and heifers, 85 per cent of the hogs, and 90 per cent of the sheep and lambs were procured in other regions (Table 10). While all three classes of plants participated in this mass interregional procurement, federally inspected plants accounted for most of it. For example, in 1955 locals obtained less than 15 per cent of their meat animals from other regions, while federally inspected plants purchased roughly 80 per cent of their beef steers and heifers, 95 per cent of their hogs and 99 per cent of their lambs from other regions (Figures 11 and 12). Wholesale plants were between these extremes procuring approximately 40 to 50 per cent of their meat animals from outside of the Northeastern region (Table 13).

When the plant operators were asked to list their reasons for procuring livestock in other regions a majority indicated they did so because

Table 10. Sources of Livestock for Northeastern Slaughter Plant Sample, 1955

Kind or Class of Meat Animal	Total Number Slaughtered	Source of Supply			
		Northeastern Region		Other Regions	
	Head	*Number*	*Per cent*	*Number*	*Per cent*
All Cattle	979,576	530,770	54	448,806	46
Beef Steers & Heifers	562,392	163,582	29	398,810	71
Bulls	63,683	39,198	62	24,485	38
Other Cattle	353,501	327,990	93	25,511	7
Calves	1,023,870	835,418	82	188,452	18
Hogs	3,030,467	479,445	16	2,551,022	84
Sheep & Lambs	1,145,473	96,354	8	1,049,119	92

Table 11. Sources of Livestock for Local Slaughter Plants, Northeastern Region, 1955

Kind or Class of Meat Animal	Total Number Slaughtered	Source of Supply			
		Northeastern Region		Other Regions	
	Head	*Number*	*Per cent*	*Number*	*Per cent*
All Cattle	59,149	55,306	94	3,843	6
Beef Steers & Heifers	30,017	27,000	90	3,017	10
Bulls	5,558	5,213	94	345	6
Other Cattle	23,574	23,093	98	481	2
Calves	153,572	142,963	93	10,609	7
Hogs	66,933	57,972	87	8,961	13
Sheep & Lambs	29,472	24,911	85	4,561	15

there was a "wider selection" of "quality animals" in "sufficient quantities" and at "favorable prices" (Table 14). "Dependability" and "convenience" were also factors influencing individual decisions to procure livestock in other regions. With the exception of prices, the reasons given for procuring livestock outside of the region are all associated with problems in the procurement of livestock. Thus it appears that, even

TABLE 12. SOURCES OF LIVESTOCK FOR FEDERALLY INSPECTED SLAUGHTER PLANTS, NORTHEASTERN REGION, 1955

KIND OR CLASS OF MEAT ANIMAL	TOTAL NUMBER SLAUGHTERED	SOURCE OF SUPPLY			
		NORTHEASTERN REGION		OTHER REGIONS	
	Head	*Number*	*Per cent*	*Number*	*Per cent*
All Cattle	714,494	333,059	47	381,435	53
Beef Steers & Heifers	438,664	91,444	21	347,220	79
Bulls	37,377	17,458	47	19,919	53
Other Cattle	238,453	224,157	94	14,296	6
Calves	414,840	288,807	70	126,033	30
Hogs	2,498,045	156,302	6	2,341,743	94
Sheep & Lambs	1,010,418	11,518	1	998,900	99

TABLE 13. SOURCES OF LIVESTOCK FOR WHOLESALE SLAUGHTER PLANTS, NORTHEASTERN REGION, 1955

KIND OR CLASS OF MEAT ANIMAL	TOTAL NUMBER SLAUGHTERED	SOURCE OF SUPPLY			
		NORTHEASTERN REGION		OTHER REGIONS	
	Head	*Number*	*Per cent*	*Number*	*Per cent*
All Cattle	205,933	142,405	69	63,528	31
Beef Steers & Heifers	93,711	45,138	48	48,573	52
Bulls	20,748	16,527	80	4,221	20
Other Cattle	91,474	80,740	88	10,734	12
Calves	455,458	403,648	89	51,810	11
Hogs	465,489	265,171	57	200,318	43
Sheep & Lambs	105,583	59,925	57	45,658	43

TABLE 14. REASONS GIVEN FOR PROCURING LIVESTOCK OUTSIDE OF THE NORTHEASTERN REGION BY NORTHEASTERN SLAUGHTER PLANT SAMPLE, 1955

REASON GIVEN	PLANT CLASSIFICATION (RESPONSES)		
	FEDERALLY INSPECTED	WHOLESALE	LOCAL
Market Demand	3	—	—
Quality	27	43	30
Quantity	25	42	26
Price	9	14	7
Convenience	2	8	11
Selection Offered	12	11	—
Seasonal or Occasional Bargain	3	—	4
Competition	1	—	—
Dressing Percentage	—	—	3
Dependable Source of Supply	—	13	2
Fill out Loads	—	—	2
Close Markets	—	4	3
Quick, Cheap Transportation	—	—	3

on an individual plant basis, the primary reason for obtaining meat animals outside of the Northeastern region is the inadequate supply of meat animals within the region.

The great disparity between meat production and consumption in the region, together with the reasons given by slaughterers for procuring livestock outside of the Northeastern region, indicates that meat production might be profitably expanded in the area. However, livestock production has not expanded because of the costs of growing grain or transporting it into the area, the costs of increasing the number of breeding animals, and the use of productive resources in enterprises which likely have less utility than alternative uses.

Amount and Sources of Livestock Procured Within the Northeastern Region

As indicated in Figure 10, a large majority of slaughter dairy cattle and calves are obtained within the region. For the year 1955 over 90 per cent of the dairy cattle, 80 per cent of the calves and 60 per cent of the bulls slaughtered in the sample plants were obtained within the region. During the same period only 29 per cent of the beef steers and heifers, 16 per cent of the hogs, and 8 per cent of the sheep and lambs were purchased in the region.

Local and wholesale slaughterers obtained most of their slaughter livestock in the Northeast while federally inspected plants obtained most of their purchases in other areas. In the aggregate picture, the procurement pattern of local and wholesale slaughterers is somewhat obscured by the activities of large volume packers (Table 12). During 1955, for example, locals obtained over 85 per cent of their hogs and lambs, and well over 90 per cent of all other meat animals within the region (Table 11). During the same period wholesale plants procured between 50 and 60 per cent of their slaughter animals within the Northeastern region (Table 13).

Most of the slaughter animals obtained within the region are procured at either terminals or auctions. Purchases from these two sources accounted for well over two thirds of all meat animals bought by sample plants in the Northeastern region (Figure 2). Procurements from dealers and directly from farmers were of relatively minor importance, excepting the direct purchases of hogs. Approximately one fourth of all hogs bought in the region were obtained directly from farmers. Auction markets were the most important source of dairy cattle and calves, and terminal markets the most important source of lambs, hogs, beef steers and heifers.

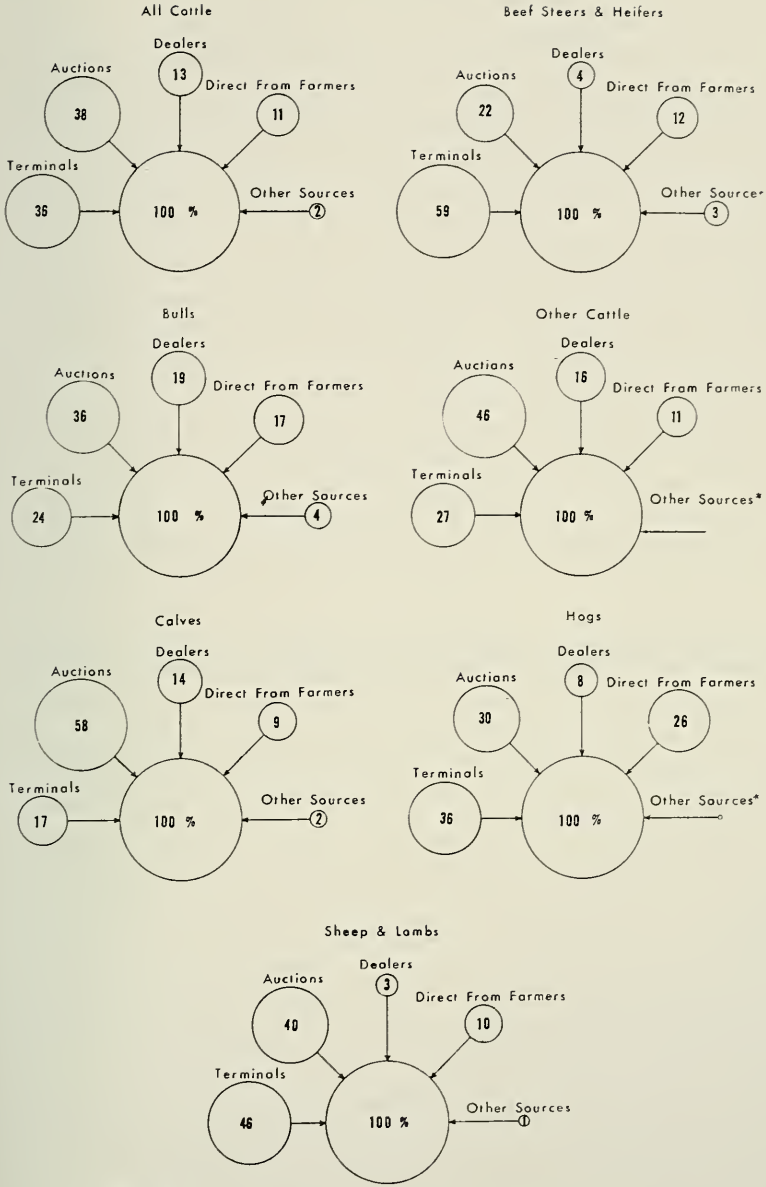

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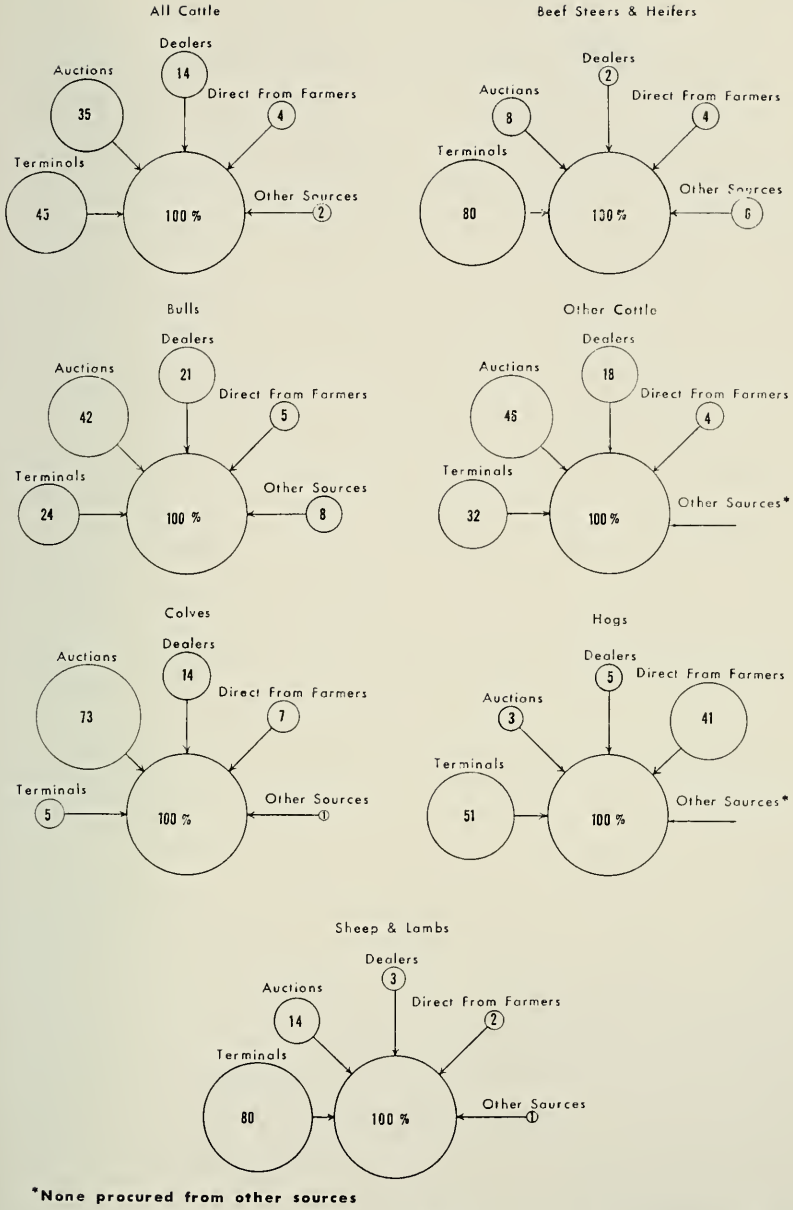
FIGURE 2. Sources of Livestock Procured Within the Northeastern Region, Northeastern Slaughter Plant Sample, 1955.

When the sources of meat animals used by individual plant classes are isolated from the aggregate procurement pattern, several differences can be seen. The procurement pattern of federally inspected plants is quite similar to the aggregate pattern, with the greatest exception occurring in direct purchasing of hogs (Figure 3). Roughly 40 per cent of the slaughter hogs procured by federally inspected plants were purchased directly from farmers, compared to 26 per cent when all plants are considered. On the other hand, the procurement pattern of local plants differs greatly from the aggregate pattern (Figure 5). When all plants are considered, direct purchases from farmers were not too important, accounting for about 15 per cent of all slaughter animals. Local plants, however, obtained roughly 30 to 35 per cent of their livestock directly from farmers. Local plants also had a greater dependence upon purchases at auctions than did federally inspected or wholesale plants. Altogether local plants obtained approximately 75 per cent of their meat animals from auction markets and directly from farmers. In comparison, federally inspected plants procured 50 per cent of their slaughter livestock from auctions and farmers and wholesale plants obtained 55 per cent of their livestock from these sources. The pattern of procurement by wholesale plants is not very different from the aggregate pattern for all plants (Figure 4).

Sales Outlets Used for Distributing Meat and Meat Products

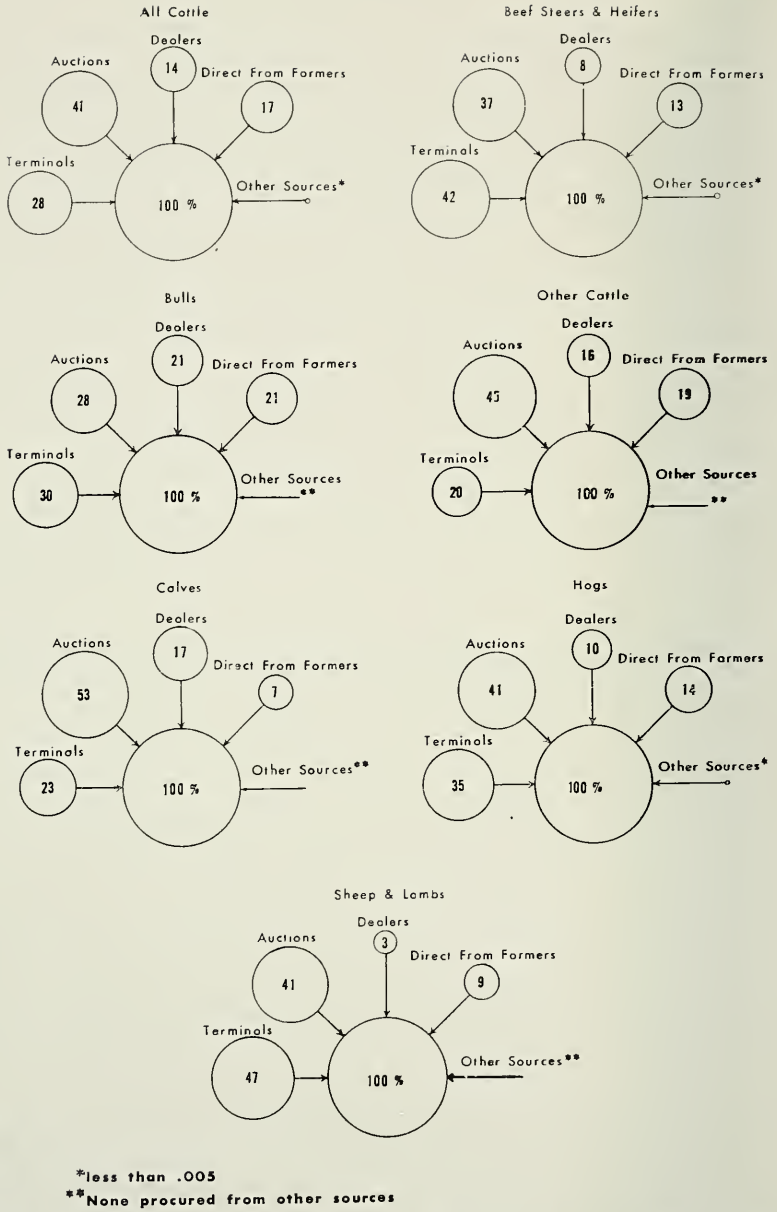
The distribution patterns of slaughter plants are largely determined by the demands of retail and wholesale meat buyers. These buyer demands are in turn largely determined by consumer demand. The choice among slaughter plants, however, is influenced by a number of factors associated with the slaughter plants. The kind and grade of livestock slaughtered, the ability to supply a continuous volume of meat, whether or not the meat is federally inspected and graded, personal friendship and preference, salesmanship of slaughterers, relative prices for meat among slaughterers, extent of carcass breakdown, and other services rendered by slaughterers are examples of the myriad forces which influence the decisions of meat buyers when selecting among slaughter plants.

The outlets to which a slaughterer sells his meat change in importance over a period of time. Some buyers quit altogether while, others decrease their purchases. At the same time new customers are added, and others increase their purchases. In the aggregate, however, many of these factors offset each other and fairly clear marketing patterns tend to develop. Of major importance are sales to retail markets, jobbers and



*None procured from other sources

FIGURE 3. Sources of Livestock Procured Within the Northeastern Region, Northeastern Federally Inspected Slaughter Plants, 1955.



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**None procured from other sources

FIGURE 4. Sources of Livestock Procured Within the Northeastern Region, Northeastern Wholesale Slaughter Plants, 1955.

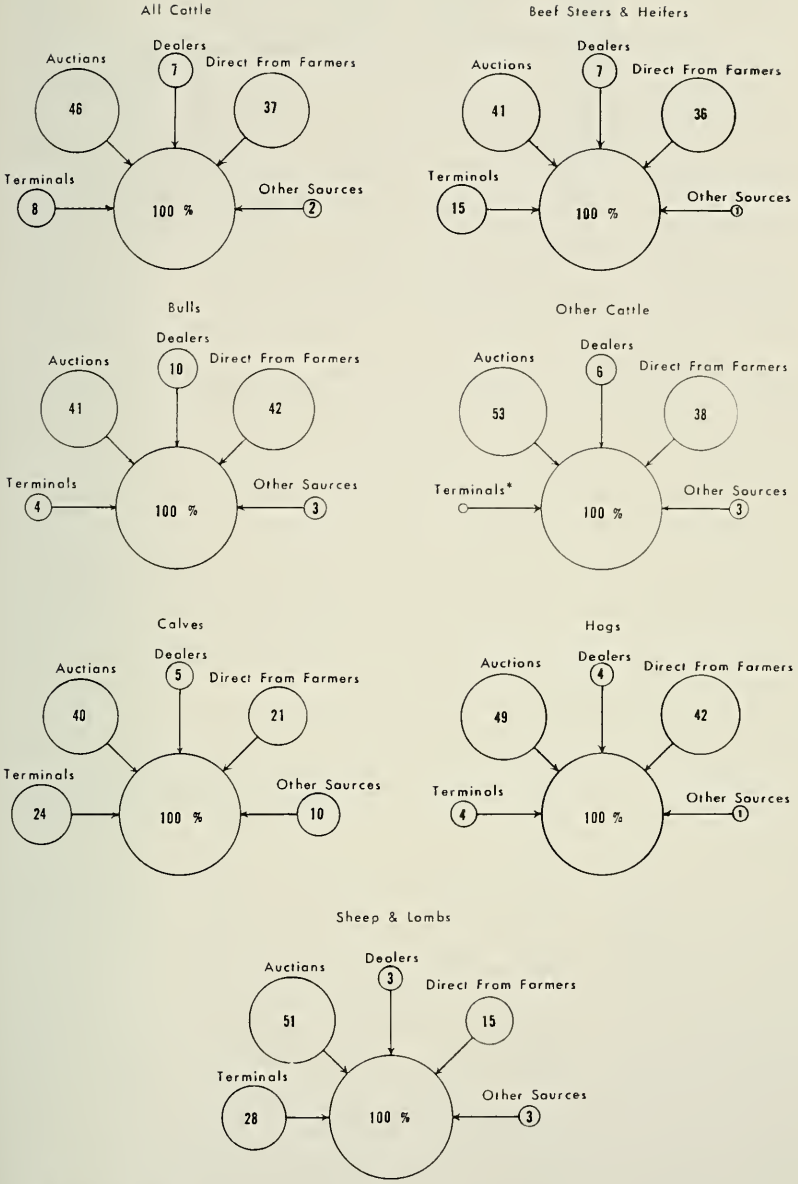

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FIGURE 5. Sources of Livestock Procured Within the Northeastern Region, Northeastern Local Slaughter Plants, 1955.

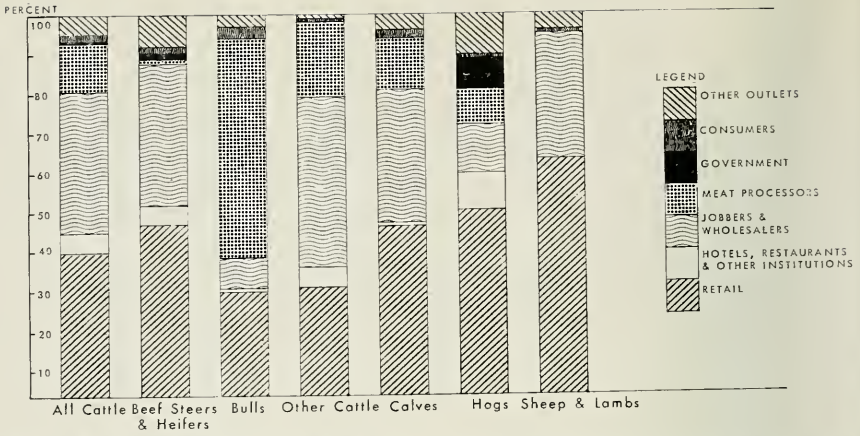

FIGURE 6. The Amount of Meat and Meat Products by Kind of Meat Animal Sold to Different Sales Outlets by Northeastern Slaughter Plant Sample, 1955.

wholesalers, and meat processors. Sales directly to consumers, government agencies, hotels, restaurants and other outlets are of minor importance except in individual cases.

In this study, the movement of meat and meat products from slaughter plants to consumers was not completely traced. Instead, the task was to determine the initial movement of meat and meat products. That is, what were the sales outlets being used by slaughterers and which ones were most important?

To ascertain the amount of meat sold to each of these outlets, it was necessary to convert live animals into dressed carcass weight. This was accomplished by converting livestock numbers first to live weight and then converting live weight into dressed carcass weight (Appendices B, D and E).[14]

During 1955 the largest proportion of meat and meat products marketed by sample Northeastern slaughterers was sold to retail outlets. The second most important outlet used was jobbers and wholesalers. The combined sales to these two outlets accounted for 75 per cent of the beef, 79 per cent of the veal, 61 per cent of the pork and 95 per cent of the lamb (Figure 6). Sales to meat processors ranked third in importance, amounting to 12 per cent of the beef, 14 per cent of the veal and 9 per

[14]Animals were converted to liveweight by using the average liveweight value for each type of meat animal in each of the Northeastern states during 1955. The United States average-dressed weight for each type of meat animal was divided by the United States average-liveweight and expressed as the dressing percentage. These dressing percentages were then applied to the liveweight values of the animals slaughtered to obtain total pounds of meat for distribution. The author is cognizant of limitations associated with this procedure. However, no method of ascertaining liveweights, dressing percentages, and dressed weights is precisely correct unless each animal is handled individually.

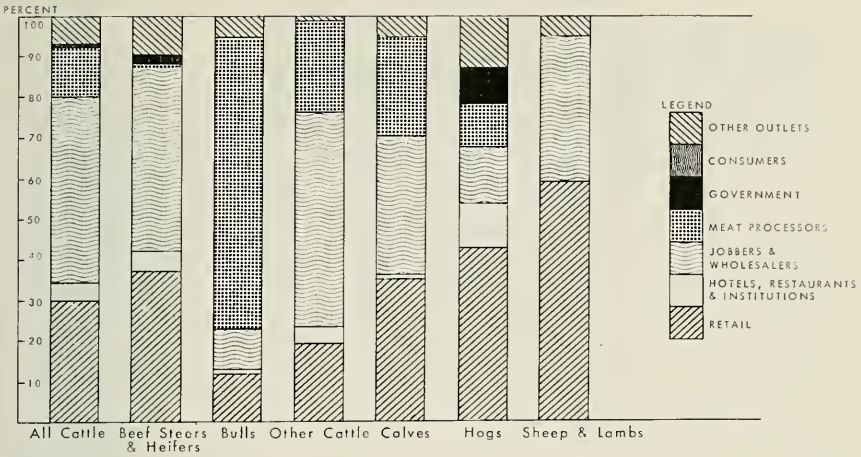

FIGURE 7. The Amount of Meat and Meat Products by Kind of Meat Animal Sold to Different Sales Outlets by Northeastern Federally Inspected Slaughter Plants, 1955.

cent of the pork. The remaining meat was sold to hotels, restaurants, government agencies, consumers and other outlets.

These aggregate figures conceal a marketing pattern of considerable importance in this region. Dairy cattle, bulls and calves constitute a sizable majority of all meat animals produced and marketed in the region, and the use made of the meat from these animals, in addition to the way it is distributed, is quite important to farmers, as well as others connected with the livestock industry. In general, the eating quality of

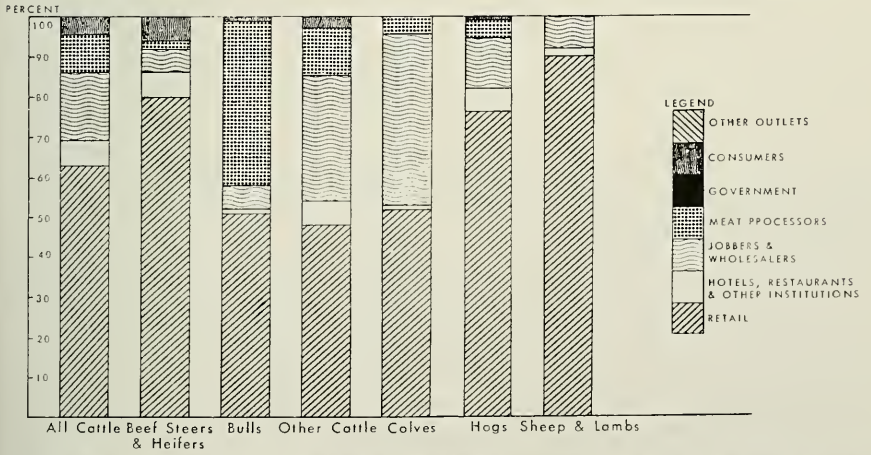

FIGURE 8. The Amount of Meat and Meat Products by Kind of Meat Animal Sold to Different Sales Outlets by Northeastern Wholesale Slaughter Plants, 1955.

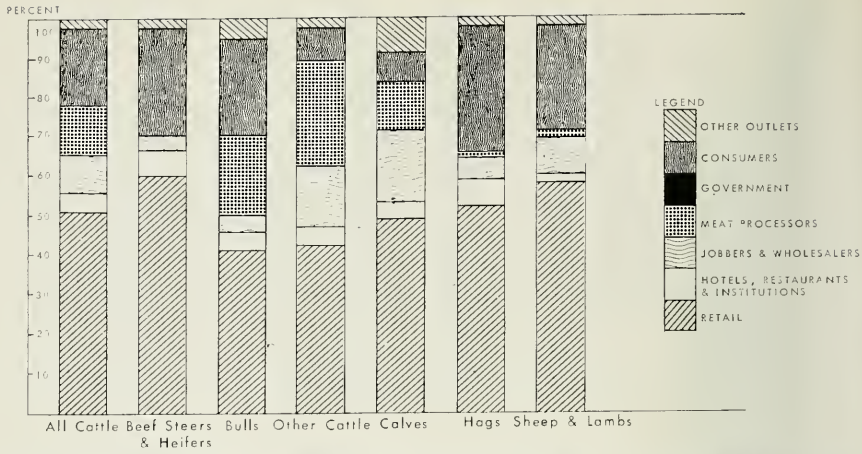

FIGURE 9. The Amount of Meat and Meat Products by Kind of Meat Animal Sold to Different Sales Outlets by Northeastern Local Slaughter Plants, 1955.

retail cuts of beef from dairy cattle and bulls is inferior to that from beef steers and heifers. Consequently, a large amount of this beef is sold to meat processors who use it in preparing sausages, meat loaves, canned and other processed meats.

The pattern of distribution for individual plant classifications differs quite significantly from one class to another. While federally inspected plants depend upon sales to retail outlets, and jobbers and wholesalers, the importance of each outlet is approximately the same (Figure 7). Wholesale plants, however, are heavily dependent upon sales to retail outlets with sales to jobbers and wholesalers representing a second but much less important outlet (Figure 8). Locals, on the other hand, sell about half of their meat to retail outlets, one fourth directly to consumers and the remaining fourth largely to meat processors, jobbers and wholesalers (Figure 9).

The Proportion of Meat Sold in Different Forms of Carcass Breakdown

The kind and degree of carcass breakdown is generally determined by the demand from markets being served and the kind and grade of meat animals slaughtered. Usually the higher grades of cattle, calves, and lambs are sold either as whole, half, or quarter carcasses. On the other hand, hog carcasses of comparable grades are usually further separated and sold as wholesale cuts, either fresh or cured.

Considerable quantities of the lower grade animals are sold as boned meat. This is especially true of dairy cattle and bulls. At the same time,

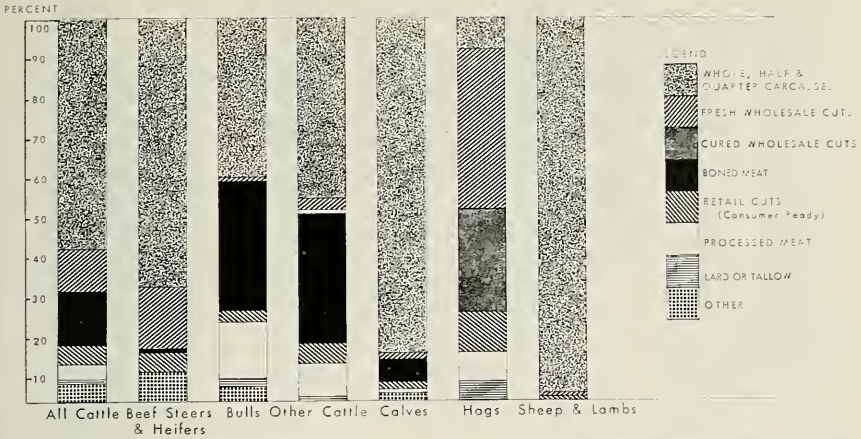

FIGURE 10. Carcass Breakdown by Kind of Livestock Slaughtered, Northeastern Slaughter Plant Sample, 1955.

many of the slaughterers use the meat from lower grade animals in preparing processed meats.

Of the animals slaughtered in sample Northeastern slaughtering establishments during 1955, 60 per cent of the cattle, 87 per cent of the calves, 8 per cent of the hogs, and 98 per cent of the lambs were sold as whole, half, or quarter carcasses (Figure 10). Approximately 70 per cent of the pork carcasses were broken down into wholesale cuts and sold as fresh or cured cuts. Although boned meat accounted for only 14 per cent of the cattle, most of it came from dairy cattle and bulls. Considerable

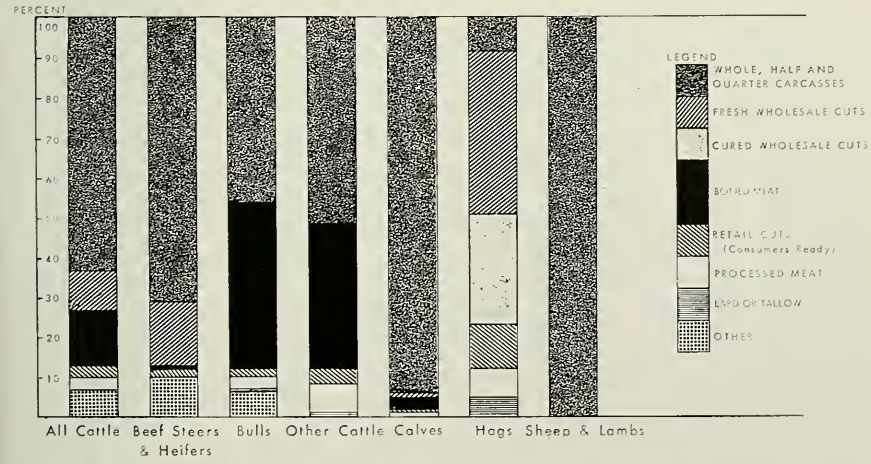

FIGURE 11. Carcass Breakdown by Kind of Livestock Slaughtered, Northeastern Federally Inspected Slaughter Plants, 1955.

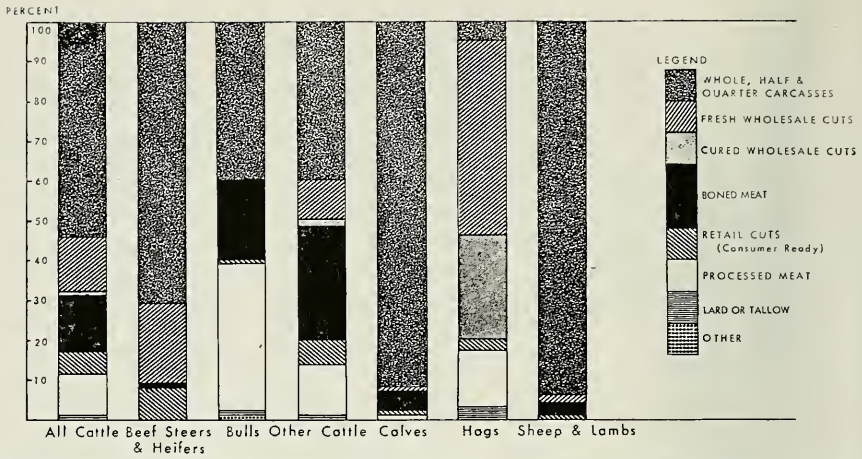

FIGURE 12. Carcass Breakdown by Kind of Livestock Slaughtered, Northeastern Wholesale Slaughter Plants, 1955.

amounts of the meat from each kind of meat animals were sold in other breakdown forms, but none of these accounted for more than 10 per cent of the total meat from any kind of meat animal.

The primary difference in carcass breakdown among federally inspected, wholesale and local slaughtering plants is in the proportion of meat sold in different forms. The major proportion of all meat animals slaughtered is sold in whole, half, or quarter carcass form. Federally inspected plants sell the highest proportion in this form, wholesale plants

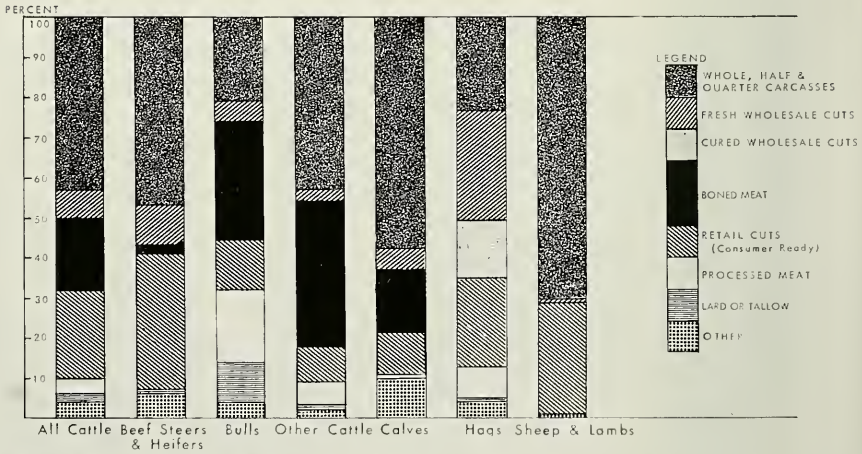

FIGURE 13. Carcass Breakdown by Kind of Livestock Slaughtered, Northeastern Local Slaughter Plants, 1955.

rank second, and local plants rank third (Figures 11 , 12, and 13). Between wholesale and federally inspected plants there is little difference in the proportion of meat sold in each form. However, with each kind of meat animal local slaughterers sell a larger proportion of their meat as retail cuts than do wholesale and federally inspected slaughterers. Local plants also sell a larger proportion of their meat as boned meat than do wholesale or federally inspected plants.

Federally Graded Meat

Grading of meat by Federal graders is an operation which is becoming increasingly more important. Several factors are contributing to this increased emphasis upon Federal grading, but consumers and retail-chain stores are quite likely providing the major stimuli.

Consumers, either through educational enlightenment on Federal grades by published literature or through exposure and subsequent positive reaction to large-scale advertising, have increased their demand for federally graded and stamped meat. Very likely there is a sense of security, among other things, associated with buying meat that has been federally graded.

Over the years, retail chain stores have increased their economic influence considerably. Along with this economic influence, they have encouraged federal grading by their advertising and meat-buying policies. How much influence meat advertisements such as "United States Federally Inspected and Graded" have on purchasing habits of consumers is not known, but it has had a profound effect on the type of meat bought and sold by large retailing organizations.

With the exception of beef, very little of the meat originating in Northeastern slaughter plants is federally graded. Of the total meat from animals slaughtered in sample plants during 1955, approximately 34 per cent of the beef, 7 per cent of the veal, 10 per cent of the pork, and 9 per cent of the lamb was federally graded. As indicated in Table 15 federal grading of beef is largely restricted to the meat from beef steers and heifers.

Federal grading is a service for which slaughterers must pay, and therefore it is reasonable to assume they will restrict Federal grading to those carcasses which they expect to resell at a price which will cover the cost of grading in addition to other costs. This does not mean, however, that the cost of Federal grading for particular carcasses will always be recovered. In addition, lower quality carcasses which are used primarily in the manufacture of sausage, meat loaves, canned and other processed meats are not usually graded. Therefore, in practice, slaughterers confine Federal grading to the higher quality carcasses.

In general, only a small proportion of the meat animals produced in the Northeastern region have the necessary attributes to be graded in the upper two or three Federal grades of meat. We can, therefore, expect that only a small amount of the meat produced in the region will be federally graded. A majority of the slaughter steers and heifers, however, are shipped into the region and these animals possess those characteristics necessary to be placed in the higher grades. As a result, a large proportion of the steer and heifer carcasses are federally graded.

Among the federally inspected, wholesale, and local slaughtering plants there is a wide difference in the use of Federal grading (Table 15). Federally inspected plants sold more federally graded meat than did wholesale plants, while local plants sold no federally graded meat. No attempt was made to determine why slaughterers do or do not use this service. However, the relatively low volume and lower quality meat in most wholesale and local plants probably accounts for the low percentage of federally graded meat by these plants.

Table 15. Amount of Meat Federally Graded in Northeastern Slaughter Plant Sample, 1955

Plant Classification	Kind of Livestock	Total Pounds of Dressed Meat	Total Pounds of Meat Federally Graded	Per Cent of Meat Federally Graded
All Plants in the Sample	All Cattle	561,819,051	182,952,580	34
	Strs. & Heifers	329,898,082	182,394,289	35
	Bulls	35,769,286	2,113,730	6
	Other Cattle	196,151,683	5,444,561	3
	Calves	77,782,498	5,390,354	7
	Hogs	497,384,372	50,418,400	10
	Sheep & Lambs	49,101,514	4,434,849	9
Federally Inspected	All Cattle	414,530,979	187,034,830	45
	Strs. & Heifers	261,249,812	179,721,272	69
	Bulls	21,490,848	1,988,828	9
	Other Cattle	131,790,319	5,324,730	4
	Calves	32,400,999	5,245,814	16
	Hogs	408,754,319	50,418,400	12
	Sheep & Lambs	43,007,841	4,403,785	10
Wholesale	All Cattle	114,153,856	2,917,750	3
	Strs. & Heifers	51,955,652	2,673,017	5
	Bulls	11,211,915	124,902	1
	Other Cattle	50,986,289	119,831	*
	Calves	32,394,115	144,540	*
	Hogs	77,498,714	0	0
	Sheep & Lambs	4,654,327	31,064	1
Local	All Cattle	33,134,216	0	0
	Strs. & Heifers	16,692,618	0	0
	Bulls	3,066,523	0	0
	Other Cattle	13,375,075	0	0
	Calves	12,987,384	0	0
	Hogs	11,131,339	0	0
	Sheep & Lambs	1,439,346	0	0

*Less than .005.

Table 16. Experience with Federal Grading, Northeastern Slaughter Plant Sample, 1955

Experience	Plant Classification (Responses)		
	Federally Inspected	Wholesale	Local
Not consistent	2	—	—
Good law, poor administration	2	1	1
No experience	3	—	—
Aids sales and gives security on market	8	5	6
Satisfactory	14	21	17
Fair grading	6	—	—
Used during war only	3	6	25
Unnecessary	—	—	7
Too expensive	—	7	16
Unsatisfactory	—	1	5
Inexperienced graders	—	1	14
Inconvenient	—	1	5
No effect on business	—	2	—
Aids only in high grades	—	1	—

An effort was made to determine how slaughterers felt about Federal grading by asking "What has been your experience with Federal grading?" The responses to this question indicate that a majority of those using Federal grading were satisfied with the service, while those not using it tended to find fault with it (Table 16). Local slaughterers, although not using Federal grading, tended to be the most dissatisfied with it.

Disposition of Livestock By-Products

Markets for livestock by-products are very important in determining prices received by livestock producers, and prices paid by consumers for meat and meat products. Without the revenues from hides, bones, tallow, lard, glands, and other edible and inedible offal, slaughterers would pay less for livestock or charge more for meat and meat products or a combination of both.

The utilization of by-products is very complete with almost no parts of an animal being discarded. In the past, it was often stated that everything but the hog's squeal was sold by slaughterers. The data in Tables 17, 18, and 19 indicate that this is largely correct, as very few plants discard any by-products.

Some of the more important outlets used by Northeastern slaughter plants for disposing of livestock by-products are rendering plants, tanneries or hide companies, feed and fertilizer companies, soap manufacturers, and drug and tallow companies. Several of the plants sell their by-products to dealers, brokers, and jobbers who, in turn, sell them to these companies. Another group of slaughterers do some processing of by-products such as rendering, salting, curing and cooking before disposing of them.

Table 17. Disposition of Livestock By-Products, Northeastern Federally Inspected Slaughter Plants, 1955

Methods of Disposal Used	By-Products and Number of Plants Reporting Method of Disposal Used			
	Bones	Hides	Tallow	Other Inedible Offal
Dealers	2	2	2	2
Rendering Plants	22	5	21	20
Sold Raw	2	1	1	1
Feed Manufacturers	2		1	3
Render and Sell	8		8	10
Tankage	5		1	1
Jobbers	1		1	2
Fertilizer Companies	1			1
Discarded	2			1
Brokers		6	1	
Dog and Mink Farms			3	3
Soap Companies			3	
Salt and Sell		11		
Tanneries		12		
Hide Companies		5		

Rendering plants are the most important outlets for all by-products except hides. Tanneries, hide, and leather companies purchase most of the hides. From the number of outlets listed by these slaughter plants and the small number of plants discarding by-products (Tables 17, 18, and 19) one can assume that there is little difficulty in disposing of by-products.

Table 18. Disposition of Livestock By-Products, Northeastern Wholesale Slaughter Plants, 1955

Methods of Disposal Used	By-Products and Number of Plants Reporting Method of Disposal Used			
	Bones	Hides	Tallow	Other Inedible Offal
Dealers	6	11	5	5
Rendering Plants	42	5	27	34
Sold Raw	1	6	10	9
Fertilizer Companies	3	1	1	2
Tallow Companies	1	1	2	1
Feed Manufacturers	2		1	1
Rendering and Sell	3		13	3
Tankage	11		2	8
Hide Companies		7	3	1
Soap Companies			6	1
Jobbers			2	1
Cook and Feed Hogs			2	
Salt and Sell		21		
Brokers		12		
Tanneries		17		
Salterers		1		
Cure		3		
Dog and Mink Farms				7
Drug Companies				3
Discarded				5

Between the plant classes there does not appear to be any great difference in the market outlets used for disposing of by-products.

Table 19. Disposition of Livestock By-Products, Northeastern Local Slaughter Plants, 1955

Method of Disposal Used	By-Products and Number of Plants Reporting Method of Disposal Used			
	Bones	Hides	Tallow	Other Inedible Offal
Rendering Plants	70	40	61	53
Hide and Tallow Company	21	35	23	18
Sold Raw	32	16	17	26
Dealers	6	11	6	6
Fertilizer Companies	2	1	3	4
Fat Company	2	2	2	2
Tankage	3		2	4
Packing Plant		1	1	1
Brokers		1	1	
Cooked and Fed to Hogs	2			3
Soap Companies			3	1
Sell to Farmers	1			
Feed Manufacturers	1			
Given to Customers	2			
Salt and Sell		19		
Tanneries		6		
Cure		2		
Fed to Hogs			2	
Render and Sell			4	
Mink or Dog Farms				13
Discarded				8
Drug Companies				2

APPENDIX A

Sampling Procedure

With the exception of Maine, Vermont and Massachusetts, the sampling rate was one half of the federally inspected plants, one third of the wholesale plants and one fourth of the local plants. In Maine, Vermont, and Massachusetts, the sample was enlarged to include all of the federally inspected and wholesale slaughter plants to insure a representative sample.

On the basis of commercial livestock slaughter statistics, the combined slaughter of all plants in the sample represents 41 per cent of the cattle slaughtered in the Northeast, 34 per cent of the calves, 34 per cent of the hogs, and 37 per cent of the sheep and lambs.[1] Another check is made on the sample by expanding the sample data and comparing it to the USDA commercial slaughter figures for 1955 (Table 1). When these adjustments are made, there is approximately 5 per cent difference in the number of cattle, 8 per cent in calves, 19 per cent in hogs and 20 per cent in sheep and lambs. The large differences in hogs, sheep and lambs is likely due to the uncooperativeness of a few large federally inspected slaughter plants in the Boston area. Even so, it is remarkable that the volume of livestock slaughtered by a sample based entirely on number of plants would be so close (after adjustments) to the reported slaughter figures for the region.

[1]The following data for 1955 was compiled from *Livestock Market News Statistics and Related Data*, 1956, USDA, AMS, Livestock Division, Statistical Bulletin 209, June 1957, p. 29, and from data obtained in the sample survey.

	Total Regional Slaughter (Head)	Total Slaughter in Sample (Head)	Sample Slaughter as a Per Cent of Regional Slaughter
Cattle	2,393,000	979,576	41%
Calves	3,041,000	1,023,870	34%
Hogs	8,195,000	3,030,467	34%
Sheep & Lambs	3,069,000	1,145,473	37%

Table 1. Comparison of Adjusted Sample with Total Slaughter for the Northeastern Region, 1955

Livestock Slaughter by Plant Classification	Total Number in the Sample (Head)	Adjustment Factor*	Adjusted Total (Head)	Total Slaughter in the Northeast (Head)	Numerical and Percentage Difference Between the Adjusted Sample and Total Northeast Slaughter	
					Numerical	Per cent
Cattle Slaughter by Federally Inspected Plants	714,494	X2				
Cattle Slaughter by Wholesale Plants	205,933	X3	2,283,383	2,393,000	—109,617	4.6
Cattle Slaughter by Local Plants	59,149	X4				
Calf Slaughter by Federally Inspected Plants	414,840	X2				
Calf Slaughter by Wholesale Plants	455,458	X3	2,810,342	3,041,000	—230,658	7.6
Calf Slaughter by Local Plants	153,572	X4				
Hog Slaughter by Federally Inspected Plants	2,498,045	X2				
Hog Slaughter by Wholesale Plants	465,489	X3	6,660,289	8,195,000	—1,534,711	18.7
Hog Slaughter by Local Plants	66,933	X4				
Sheep & Lamb Slaughter by Federally Inspected Plants	1,010,418	X2				
Sheep & Lamb Slaughter by Wholesale Plants	105,583	X3	2,455,473	3,069,000	—613,527	20.0
Sheep & Lamb Slaughter by Local Plants	29,472	X4				

* The adjustment factor is derived by inverting the sampling rates of one half of the federally inspected plants, one third of the wholesale plants, and one fourth of the local plants.

APPENDIX B

Table 1. Average Live Weight, Average Dressed Weight and Dressing Percentage for Cattle, Calves, Hogs, Sheep and Lambs, United States, 1945 Through 1955

Year	Average Live Weight (Pounds)	Average Dressed Weight (Pounds)	Dressing Percentage (Pounds)
Cattle			
1945	947.5	500.5	52.8
1946	942.7	499.1	52.9
1947	927.5	488.0	52.6
1948	944.6	497.7	52.7
1949	976.4	531.8	54.5
1950	989.1	540.8	54.7
1951	992.2	544.3	54.9
1952	990.2	546.0	55.1
1953	969.8	533.1	55.0
1954	958.2	526.3	54.9
1955	975.0	537.2	55.1
			Average: 54.1
Calves			
1945	213.9	118.0	55.2
1946	199.4	110.8	55.6
1947	208.6	114.7	55.0
1948	208.6	115.2	55.2
1949	209.4	116.3	55.5
1950	206.0	114.7	55.7
1951	209.2	117.6	56.2
1952	220.6	123.5	56.0
1953	226.7	126.2	55.7
1954	223.0	123.6	55.4
1955	217.7	121.0	55.6
			Average: 55.6
Hogs			
1945	264.6	200.5	75.8
1946	254.7	191.7	75.3
1947	253.9	192.6	75.9
1948	252.9	192.2	76.0
1949	247.6	188.7	76.2
1950	244.4	185.4	75.9
1951	245.8	184.9	75.2
1952	242.6	183.9	75.8
1953	238.4	182.0	76.3
1954	243.9	187.1	76.7
1955	240.8	184.3	76.5
			Average: 76.0

Source: Compiled from *Livestock Market News Statistics and Related Data,* 1954 *and* 1956, Statistical Bulletins Nos. 162 and 209, dated June 1952 and June 1957 respectively. USDA, AMS, Livestock Division.

TABLE 1 (*Cont'd*)

YEAR	AVERAGE LIVE WEIGHT	AVERAGE DRESSED WEIGHT (POUNDS)	DRESSING PERCENTAGE
Sheep and Lambs			
1945	94.4	43.2	45.8
1946	93.7	42.9	45.8
1947	93.6	43.2	46.2
1948	94.4	43.6	46.2
1949	94.1	44.3	47.1
1950	96.1	45.7	47.6
1951	98.3	46.6	47.4
1952	97.5	46.0	47.2
1953	95.3	45.3	47.5
1954	95.7	45.8	47.9
1955	96.4	46.3	48.0
			Average: 47.0

APPENDIX C

TABLE 1. LIVESTOCK SLAUGHTER, BY STATE AND KIND, IN A SAMPLE OF NORTHEASTERN FEDERALLY INSPECTED, WHOLESALE, AND LOCAL SLAUGHTERING ESTABLISHMENTS, 1955 (NUMBER OF HEAD)

KIND OR CLASS OF LIVESTOCK	MAINE	MD. & DEL.	MASS.	N. J.	N. Y.	PA.	VT.	W. VA.
All Slaughter Plants Sampled								
Beef Steers & Heifers	3,325	34,582	10,997	194,685	102,343	204,227	225	12,008
Bulls	6,418	1,186	4,330	4,150	18,820	26,829	875	1,075
Other Cattle	8,020	25,409	41,038	5,015	82,729	171,162	11,300	8,828
All Cattle	17,763	61,177	56,365	203,850	203,892	402,218	12,400	21,911
Calves	3,740	36,364	118,762	127,785	365,977	317,663	43,800	9,779
Hogs	9,720	61,458	97,420	845,900	826,024	1,135,197	200	54,548
Sheep & Lambs	2,015	15,444	6,939	946,700	53,480	119,433	450	1,012
Federally Inspected Plants								
Beef Steers & Heifers	—	24,222	9,783	190,750	84,534	129,275	100	—
Bulls	—	831	3,472	4,000	17,360	11,264	450	—
Other Cattle	—	22,735	32,406	950	40,578	131,934	9,850	—
All Cattle	—	47,788	45,661	195,700	142,472	272,473	10,400	—
Calves	—	1,471	12,181	108,500	123,536	128,652	40,500	—
Hogs	—	20,083	95,000	830,000	765,962	787,000	—	—
Sheep & Lambs	—	2,433	93	941,000	2	66,540	350	—
Wholesale Slaughter Plants								
Beef Steers & Heifers	1,920	8,015	1,090	2,570	14,484	55,450	—	10,182
Bulls	5,980	256	310	—	620	12,424	300	858
Other Cattle	6,200	1,920	7,240	2,980	30,680	33,086	1,200	8,168
All Cattle	14,100	9,791	8,640	5,550	45,784	100,960	1,500	19,208
Calves	2,080	27,586	103,000	2,000	170,972	138,522	3,000	8,298
Hogs	8,700	31,187	—	12,500	51,854	314,007	—	47,241
Sheep & Lambs	1,740	11,169	6,500	5,000	41,174	39,498	50	452
Local Slaughter Plants								
Beef Steers & Heifers	1,405	2,345	124	1,365	3,325	19,502	125	1,826
Bulls	438	99	548	150	840	3,141	125	217
Other Cattle	1,820	754	1,392	1,085	11,471	6,142	250	660
All Cattle	3,663	3,198	2,064	2,600	15,636	28,785	500	2,703
Calves	1,660	7,307	3,581	17,285	71,469	50,489	300	1,481
Hogs	1,020	10,188	2,420	3,400	8,208	34,190	200	7,307
Sheep & Lambs	275	1,842	346	700	12,304	13,395	50	560

TABLE 2. SOURCE OF LIVESTOCK, BY STATE AND KIND, IN A SAMPLE OF NORTHEASTERN FEDERALLY INSPECTED WHOLESALE, AND LOCAL SLAUGHTERING ESTABLISHMENTS, 1955 (NUMBER OF HEAD)

SOURCE OF LIVESTOCK	MAINE	MD. & DEL.	MASS.	N. J.	N. Y.	PA.	VT.	W.VA.
All Slaughter Plants Sampled								
Beef Steers & Heifers								
Within the Northeast	3,325	34,182	10,500	22,123	15,480	75,109	225	2,638
From other Regions	—	400	497	172,562	86,863	129,118	—	9,320
Bulls								
Within the Northeast	6,418	1,186	4,237	900	2,809	22,018	875	755
From other Regions	—	—	93	3,250	16,011	4,811	—	320
Other Cattle								
Within the Northeast	8,020	25,409	40,573	4,440	81,237	154,776	11,300	2,235
From other Regions	—	—	465	575	1,492	16,386	—	6,593
All Cattle								
Within the Northeast	17,763	60,777	55,310	27,463	99,526	251,903	12,400	5,628
From other Regions	—	400	1,055	176,387	104,366	150,315	—	16,283
Calves								
Within the Northeast	3,740	35,312	118,762	20,635	361,777	243,233	43,800	8,159
From other Regions	—	1,052	—	107,150	4,200	74,430	—	1,620
Hogs								
Within the Northeast	9,345	61,458	59,420	15,900	48,240	240,983	200	43,899
From other Regions	375	—	38,000	830,000	777,784	894,214	—	10,649
Sheep & Lambs								
Within the Northeast	2,015	13,154	6,939	4,450	18,230	50,162	450	954
From other Regions	—	2,290	—	942,250	35,250	69,271	—	58

(continued on next page)

TABLE 2 (*Cont'd*)

SOURCE OF LIVESTOCK	MAINE	MD. & DEL.	MASS.	N. J.	N. Y.	PA.	VT.	W.VA.
Federally Inspected Plants								
Beef Steers & Heifers	—	24,222	9,783	190,750	84,534	129,275	100	—
Within the Northeast	—	24,222	9,599	18,800	3,012	35,711	100	—
From other Regions	—	—	184	171,950	81,522	93,564	—	—
Bulls	—	831	3,472	4,000	17,360	11,264	450	—
Within the Northeast	—	831	3,431	750	1,360	10,636	450	—
From other Regions	—	—	41	3,250	16,000	628	—	—
Other Cattle	—	22,735	32,406	950	40,578	131,934	9,850	—
Within the Northeast	—	22,735	31,942	700	39,216	119,714	9,850	—
From other Regions	—	—	464	250	1,362	12,220	—	—
All Cattle	—	47,788	45,661	195,700	142,472	272,473	10,400	—
Within the Northeast	—	47,788	44,972	20,250	43,588	166,061	10,400	—
From other Regions	—	—	689	175,450	98,884	16,412	—	—
Calves	—	1,471	12,181	108,500	123,536	128,652	40,500	—
Within the Northeast	—	1,471	12,181	3,150	123,536	107,969	40,500	—
From other Regions	—	—	—	105,350	—	20,683	—	—
Hogs	—	20,083	95,000	830,000	765,962	787,000	—	—
Within the Northeast	—	20,083	57,000	—	7,669	71,550	—	—
From other Regions	—	—	38,000	830,000	758,293	715,450	—	—
Sheep & Lambs	—	2,433	93	941,000	2	66,540	350	—
Within the Northeast	—	543	93	3,250	2	7,280	350	—
From other Regions	—	1,890	—	937,750	—	59,260	—	—
Wholesale Slaughter Plants								
Beef Steers & Heifers	1,920	8,015	1,090	2,570	14,484	55,450	—	10,182
Within the Northeast	1,920	7,615	778	1,958	9,472	22,504	—	891
From other Regions	—	400	312	612	5,012	32,946	—	9,291
Bulls	5,980	256	310	—	620	12,424	300	858
Within the Northeast	5,980	256	310	—	609	8,524	300	548
From other Regions	—	—	—	—	11	3,900	—	310
Other Cattle	6,200	1,920	7,240	2,980	30,680	33,086	1,200	8,168
Within the Northeast	6,200	1,920	7,240	2,655	30,550	29,367	1,200	1,608
From other Regions	—	—	—	325	130	3,719	—	6,560
All Cattle	14,100	10,191	8,640	5,550	45,784	100,960	1,500	19,208
Within the Northeast	14,100	9,791	8,328	4,613	40,631	60,395	1,500	3,047
From other Regions	—	400	312	937	5,153	40,565	—	16,161

Calves	2,080	27,586	103,000	2,000	170,972	138,522	3,000	8,298
Within the Northeast	2,080	27,586	103,000	200	168,472	92,245	3,000	7,065
From other Regions	—	—	—	1,800	2,500	46,277	—	1,233
Hogs	8,700	31,187	—	12,500	51,854	314,007	—	47,241
Within the Northeast	8,325	31,187	—	12,500	32,363	141,137	—	39,659
From other Regions	375	—	—	—	19,491	172,870	—	7,582
Sheep & Lambs	1,740	11,169	6,500	5,000	41,174	39,498	50	452
Within the Northeast	1,740	11,169	6,500	500	7,924	31,590	50	452
From other Regions	—	—	—	4,500	33,250	7,908	—	—
Local Slaughter Plants								
Beef Steers & Heifers	1,405	2,345	124	1,365	3,325	19,502	125	1,826
Within the Northeast	1,405	2,345	123	1,365	2,996	16,894	125	1,747
From other Regions	—	—	1	—	329	2,608	—	79
Bulls	438	99	548	150	840	3,141	125	217
Within the Northeast	438	99	496	150	840	2,858	125	207
From other Regions	—	—	52	—	—	283	—	10
Other Cattle	1,820	754	1,392	1,085	11,471	6,142	250	660
Within the Northeast	1,820	754	1,391	1,085	11,471	5,695	250	627
From other Regions	—	—	1	—	—	447	—	33
All Cattle	3,663	3,198	2,064	2,600	15,636	28,785	500	2,703
Within the Northeast	3,663	3,198	2,010	2,600	15,307	25,447	500	3,581
From other Regions	—	—	54	—	329	3,338	—	122
Calves	1,660	7,307	3,581	17,285	71,469	50,489	300	1,481
Within the Northeast	1,660	6,255	3,581	17,285	69,769	43,019	300	1,094
From other Regions	—	1,052	—	—	1,700	7,470	—	387
Hogs	1,020	10,188	2,420	3,400	8,208	34,190	200	7,307
Within the Northeast	1,020	10,188	2,420	3,400	8,208	28,296	200	4,240
From other Regions	—	—	—	—	—	5,894	—	3,067
Sheep & Lambs	275	1,842	346	700	12,304	13,395	50	560
Within the Northeast	275	1,442	346	700	10,304	11,292	50	502
From other Regions	—	400	—	—	2,000	2,103	—	58

Table 3. Sources of Livestock Procured in the Northeastern Region by Northeastern Federally Inspected Slaughter Plants, 1955 (Number of Head)

Sources by Kind or Class of Livestock	Maine	Md. & Del.	Mass.	N. J.	N. Y.	Pa.	Vt.	W.Va.
Beef Steers & Heifers	—	24,222	9,599	18,800	3,012	35,711	100	—
Terminals	—	17,330	3,038	18,625	1,046	33,105	—	—
Auctions	—	4,023	—	175	1,966	1,267	45	—
Dealers	—	300	897	—	—	378	45	—
Direct from Farmers	—	2,569	175	—	—	961	10	—
Other Sources	—	—	5,489	—	—	—	—	—
Bulls	—	831	3,431	750	1,360	10,636	450	—
Terminals	—	317	1,747	500	—	1,647	—	—
Auctions	—	240	—	250	1,026	5,620	135	—
Dealers	—	10	273	—	132	3,024	285	—
Direct from Farmers	—	264	39	—	202	345	30	—
Other Sources	—	—	1,372	—	—	—	—	—
Other Cattle	—	22,735	31,942	700	39,216	119,714	9,850	—
Terminals	—	12,557	29,144	500	788	28,713	—	—
Auctions	—	7,958	—	200	30,167	61,087	3,164	—
Dealers	—	—	2,623	—	3,953	27,655	5,561	—
Direct from Farmers	—	2,220	175	—	4,308	2,259	1,125	—
Other Sources	—	—	—	—	—	—	—	—
All Cattle	—	47,788	44,972	20,250	43,588	166,061	10,400	—
Terminals	—	30,204	33,929	19,625	1,834	63,465	—	—
Auctions	—	12,221	—	625	33,159	67,974	3,344	—
Dealers	—	310	3,793	—	4,085	31,057	5,891	—
Direct from Farmers	—	5,053	389	—	4,510	3,565	1,165	—
Other Sources	—	—	6,861	—	—	—	—	—
Calves	—	1,471	12,181	3,150	123,536	107,969	40,500	—
Terminals	—	553	1,175	2,150	—	10,879	—	—
Auctions	—	668	—	1,000	99,458	95,690	14,600	—
Dealers	—	50	8,932	—	10,324	250	21,500	—
Direct from Farmers	—	200	53	—	13,754	1,150	4,400	—
Other Sources	—	—	2,021	—	—	—	—	—

TABLE 3 (*Cont'd*)

SOURCES BY KIND OR CLASS OF LIVESTOCK	MAINE	MD. & DEL.	MASS.	N. J.	N. Y.	PA.	VT.	W.VA.
Hogs	—	20,083	57,000	—	7,669	71,550	—	—
Terminals	—	—	5,700	—	7,316	66,985	—	—
Auctions	—	4,035	—	—	—	1,500	—	—
Dealers	—	—	5,700	—	—	1,500	—	—
Direct from Farmers	—	16,048	45,600	—	353	1,565	—	—
Other Sources	—	—	—	—	—	—	—	—
Sheep & Lambs	—	543	93	3,250	2	7,280	350	—
Terminals	—	26	—	3,000	—	6,195	—	—
Auctions	—	267	—	250	—	1,046	25	—
Dealers	—	50	—	—	—	—	325	—
Direct from Farmers	—	200	—	—	—	39	—	—
Other Sources	—	—	93	—	2	—	—	—

TABLE 4. SOURCES OF LIVESTOCK PROCURED IN THE NORTHEASTERN REGION BY NORTHEASTERN WHOLESALE SLAUGHTER PLANTS, 1955 (NUMBER OF HEAD)

SOURCES BY KIND OR CLASS OF LIVESTOCK	MAINE	MD. & DEL.	MASS.	N. J.	N. Y.	PA.	VT.	W.VA.
Beef Steers & Heifers	1,920	7,615	778	1,958	9,472	22,504	—	891
Terminals	—	95	778	1,958	7,102	9,170	—	—
Auctions	71	5,920	—	—	1,621	8,235	—	808
Dealers	855	1,600	—	—	220	1,021	—	—
Direct from Farmers	994	—	—	—	529	4,078	—	12
Other Sources	—	—	—	—	—	—	—	71
Bulls	5,980	256	310	—	609	8,524	300	548
Terminals	—	206	310	—	467	3,924	—	—
Auctions	68	50	—	—	142	3,927	150	537
Dealers	3,061	—	—	—	—	241	150	—
Direct from Farmers	2,851	—	—	—	—	432	—	11
Other Sources	—	—	—	—	—	—	—	—
Other Cattle	6,200	1,920	7,240	2,655	30,550	29,367	1,200	1,608
Terminals	—	—	7,006	2,655	1,858	4,531	—	—
Auctions	150	1,920	—	—	14,904	17,502	300	1,597
Dealers	2,810	—	—	—	4,277	5,429	60	—
Direct from Farmers	3,240	—	234	—	9,511	1,905	840	11
Other Sources	—	—	—	—	—	—	—	—
All Cattle	14,100	9,791	8,328	4,613	40,631	60,395	1,500	3,047
Terminals	—	301	8,094	4,613	9,427	17,625	—	—
Auctions	289	7,890	—	—	16,667	29,664	300	2,942
Dealers	6,726	1,600	—	—	4,497	6,691	210	—
Direct from Farmers	7,085	—	234	—	10,040	6,415	990	34
Other Sources	—	—	—	—	—	—	—	71
Calves	2,080	27,586	103,000	200	168,475	92,245	3,000	7,065
Terminals	—	1,212	60,500	200	6,929	21,924	—	—
Auctions	60	18,374	—	—	129,197	59,719	—	7,064
Dealers	824	8,000	42,500	—	10,461	6,297	300	—
Direct from Farmers	1,196	—	—	—	21,888	4,305	2,700	1
Other Sources	—	—	—	—	—	—	—	—

TABLE 4 (*Cont'd*)

SOURCES BY KIND OR CLASS OF LIVESTOCK	MAINE	MD. & DEL.	MASS.	N. J.	N. Y.	PA.	VT.	W.VA.
Hogs	8,325	31,187	—	12,500	32,363	141,137	—	39,659
Terminals	—	26,126	—	6,250	25,171	35,068	—	65
Auctions	—	1,761	—	—	3,191	64,697	—	39,368
Dealers	4,185	3,300	—	—	548	18,598	—	161
Direct from Farmers	3,859	—	—	6,250	3,453	22,774	—	65
Other Sources	281	—	—	—	—	—	—	—
Sheep & Lambs	1,740	11,169	6,500	500	7,924	31,590	50	452
Terminals	—	660	6,000	500	1,750	19,297	—	—
Auctions	100	10,509	—	—	2,519	10,808	—	445
Dealers	772	—	500	—	368	328	—	—
Direct from Farmers	868	—	—	—	3,287	1,157	50	7
Other Sources	—	—	—	—	—	—	—	—

TABLE 5. SOURCES OF LIVESTOCK PROCURED IN THE NORTHEASTERN REGION BY NORTHEASTERN LOCAL SLAUGHTER PLANTS, 1955 (NUMBER OF HEAD)

SOURCES BY KIND OR CLASS OF LIVESTOCK	MAINE	MD. & DEL.	MASS.	N. J.	N. Y.	PA.	VT.	W.VA.
Beef Steers & Heifers	1,405	2,345	123	1,365	2,996	16,894	125	1,747
Terminals	—	262	—	231	870	2,700	—	—
Auctions	27	468	—	384	1,040	7,496	31	1,721
Dealers	148	113	46	270	113	1,061	—	—
Direct from Farmers	1,223	1,502	43	480	973	5,400	94	26
Other Sources	7	—	34	—	—	237	—	—
Bulls	438	99	496	150	840	2,858	125	207
Terminals	—	—	—	—	—	220	—	—
Auctions	20	47	—	10	640	1,160	31	203
Dealers	108	—	35	—	45	322	—	—
Direct from Farmers	307	52	461	140	155	996	94	4
Other Sources	3	—	—	—	—	160	—	—
Other Cattle	1,820	754	1,391	1,085	11,471	5,695	250	627
Terminals	—	—	—	31	—	67	—	—
Auctions	100	608	1,226	509	6,278	2,907	62	591
Dealers	581	—	102	—	679	64	—	—
Direct from Farmers	1,132	146	36	245	4,514	2,426	188	17
Other Sources	7	—	27	300	—	231	—	19
All Cattle	3,663	3,198	2,010	2,600	15,307	25,447	500	2,581
Terminals	—	262	—	262	870	2,987	—	—
Auctions	147	1,123	1,226	903	7,958	11,563	124	2,515
Dealers	837	113	183	270	837	1,447	—	—
Direct from Farmers	2,662	1,700	540	865	5,642	8,822	376	47
Other Sources	17	—	61	300	—	628	—	19
Calves	1,660	6,255	3,581	17,285	69,769	43,019	300	1,094
Terminals	—	1,302	—	250	28,271	5,060	—	—
Auctions	60	3,012	2,320	5,500	19,975	24,813	75	757
Dealers	454	784	409	200	4,310	493	—	—
Direct from Farmers	1,144	1,157	636	1,335	17,213	8,252	225	126
Other Sources	2	—	216	10,000	—	4,401	—	211

TABLE 5 (*Cont'd*)

SOURCES BY KIND OR CLASS OF LIVESTOCK	MAINE	MD. & DEL.	MASS.	N. J.	N. Y.	PA.	VT.	W.VA.
Hogs	1,020	10,188	2,420	3,400	8,208	28,296	200	4,240
Terminals	—	—	—	—	—	2,227	—	—
Auctions	40	5,228	—	300	5,097	14,043	50	3,507
Dealers	297	—	155	750	38	930	—	—
Direct from Farmers	683	4,960	2,265	2,350	3,073	10,570	150	351
Other Sources	—	—	—	—	—	526	—	382
Sheep & Lambs	275	1,442	346	700	10,304	11,292	50	502
Terminals	—	636	—	—	4,200	2,079	—	—
Auctions	15	357	22	—	4,147	7,733	12	478
Dealers	107	358	1	100	189	62	—	—
Direct from Farmers	153	91	262	600	1,768	774	38	24
Other Sources	—	—	61	—	—	644	—	—

APPENDIX D

Table 1. Carcass Breakdown, Federally Inspected, Wholesale, and Local Slaughter Plants, Northeastern Region, 1955 (Pounds)

Kind or Class of Livestock	Whole, Half or Quarter Carcasses	Wholesale Cuts		Boned Meat	Retail Cuts	Processed Meats	Lard or Tallow	Other
		Fresh	Cured					
Federally Inspected Plants								
All Cattle	262,272,888	41,616,371	—	59,271,388	12,944,059	10,182,934	1,199,059	27,044,280
Beef Steers & Heifers	184,452,733	41,245,213	—	3,159,081	6,782,024	193,474	—	25,417,287
Bulls	9,959,004	—	—	8,964,393	507,470	521,862	197,623	1,340,496
Other Cattle	67,861,151	371,158	—	47,147,914	5,654,565	9,467,598	1,001,436	286,497
Calves	30,474,218	202,692	—	1,137,170	145,992	340,200	—	100,727
Hogs	32,303,849	166,321,282	114,268,670	—	44,422,000	28,833,838	22,604,680	—
Sheep & Lambs	42,813,967	163,560	—	3,102	2,068	—	—	25,144
Wholesale Slaughter Plants								
All Cattle	61,458,287	15,823,914	1,069,589	16,565,184	7,231,672	10,998,096	786,106	221,008
Beef Steers & Heifers	36,803,566	10,566,394	—	327,545	4,081,378	100,370	..	76,399
Bulls	4,424,243	41,187	—	2,207,455	146,404	4,177,822	101,421	113,383
Other Cattle	20,230,478	5,216,333	1,069,589	14,030,184	3,003,890	6,719,904	684,685	31,226
Calves	29,902,012	523,168	—	1,456,228	193,556	319,151	—	—
Hogs	4,142,197	37,885,274	20,210,500	2,440	2,263,358	10,378,692	2,616,253	—
Sheep & Lambs	4,387,772	100,085	—	126,171	32,939	7,360	—	—
Local Slaughter Plants								
All Cattle	14,311,231	2,296,539	—	5,991,361	7,147,565	1 351,229	518,509	1,517,782
Beef Steers & Heifers	7,896,536	1,723,267	—	254,979	5,590,479	21,372	126,389	1,079,596
Bulls	643,388	142,553	—	933,644	355,887	546,445	312,155	132,451
Other Cattle	5,771,307	430,719	—	4,802,738	1,201,199	783,412	79,965	305,735
Calves	7,571,627	595,137	892	2,121,562	1,335,646	104,864	1,565	1,256,091
Hogs	2,526,699	3,066,295	1,600,313	18,027	2,482,682	880,233	63,850	493,240
Sheep & Lambs	1,005,599	20,232	—	3,459	403,735	—	—	6,321

APPENDIX E

TABLE 1. THE AMOUNT OF MEAT AND MEAT PRODUCTS SOLD TO DIFFERENT OUTLETS BY FEDERALLY INSPECTED, WHOLESALE, AND LOCAL SLAUGHTER PLANTS, NORTHEASTERN REGION, 1955 (POUNDS)

KIND OR CLASS OF LIVESTOCK	RETAIL	HOTELS, RESTAURANTS AND OTHER INSTITUTIONS	JOBBERS AND WHOLESALERS	MEAT PROCESSORS	GOVERNMENT	CONSUMERS	OTHER
Federally Inspected Plants							
All Cattle	124,915,363	18,074,216	188,546,724	49,068,688	5,652,088	232,969	28,040,931
Beef Steers & Heifers	97,120,381	12,624,076	117,021,710	3,657,423	5,219,879	189,056	25,417,287
Bulls	2,671,598	109,532	2,156,765	15,469,837	55,512	5,438	1,022,166
Other Cattle	25,123,384	5,340,608	69,368,249	29,941,428	376,697	38,475	1,061,478
Calves	11,286,812	368,690	10,851,941	8,167,933	—	5,712	1,719,911
Hogs	176,001,214	46,588,111	55,573,132	39,593,388	38,159,499	—	52,838,975
Sheep & Lambs	25,201,340	174,192	15,509,290	77	—	2,068	2,120,874
Wholesale Slaughter Plants							
All Cattle	71,839,945	6,311,424	19,582,375	11,910,858	108,756	4,171,301	229,197
Beef Steers & Heifers	41,707,875	3,095,777	3,144,055	1,132,593	108,756	2,751,316	15,280
Bulls	5,717,967	137,978	719,174	4,561,192	—	75,604	—
Other Cattle	24,414,103	3,077,669	15,719,146	6,217,073	—	1,344,381	213,917
Calves	16,818,444	165,471	14,001,758	1,260,357	91,392	56,693	—
Hogs	59,041,227	4,906,031	9,264,802	3,758,782	—	527,872	—
Sheep & Lambs	4,209,308	73,337	353,836	6,514	—	11,332	—
Local Slaughter Plants							
All Cattle	16,903,714	1,776,677	2,813,805	4,209,699	—	6,692,628	737,693
Beef Steers & Heifers	10,081,711	948,921	672,499	44,621	—	4,674,286	270,580
Bulls	1,238,246	161,879	128,214	599,477	—	774,007	164,700
Other Cattle	5,583,757	665,877	2,013,092	3,565,601	—	1,244,335	302,413
Calves	6,411,091	484,829	2,292,919	1,543,920	—	1,103,888	1,150,737
Hogs	5,765,441	755,695	581,443	129,527	—	3,727,663	171,570
Sheep & Lambs	836,244	29,888	134,111	32,848	—	383,801	22,454